2A.96-11

1996 LOWER COOK INLET FINFISH STAFF MEETING

by

Lee F. Hammarstrom

Regional Information Report[1] 2A96-11

Alaska Department of Fish and Game
Commercial Fisheries Management & Development Division
Central Region
333 Raspberry Road
Anchorage, Alaska 99518-1599

February, 1996

[1] Contribution from the Homer area office. The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished divisional reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author(s) or the Commercial Fisheries Management and Development Division.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1996 LOWER COOK INLET ANNUAL FINFISH STAFF MEETING

INTRODUCTION

The Alaska Department of Fish and Game (ADF&G), Commercial Fisheries Management and Development Division (CFM&D), Central Region (II), held a two day staff meeting to discuss finfish management and research issues facing the Lower Cook Inlet (LCI) management area. The meeting was held in the Anchorage regional ADF&G office on Wednesday and Thursday, February 7 and 8, 1996. Participants in attendance are listed in Table 1.

The purpose of this report is to highlight and summarize the results of the meeting for future reference by management and research staff. Since the meeting involved staff with extensive experience in LCI, detailed discussions of routine programs were not conducted. Therefore, the reader is advised that reference to annual management and specific research reports may provide additional rationale and background for decisions made at the meeting.

The agenda for the meeting, found in Appendix A.1, was intended to provide only a rough outline of topics for discussion. The chronological order of the dialogue at the meeting did not necessarily conform to either this published agenda or to that of the meeting notes as reported here, but rather the topics were grouped together and presented in the most logical and easily understood manner. Items requiring action by the staff are listed in Table 2 for quick reference. Any omissions in this report are purely inadvertent.

APPOINTMENTS AND AGENDA CHANGES

The meeting was opened by James Brady, who immediately appointed himself as chairman and appointed Lee Hammarstrom as secretary. Wes Bucher added two herring agenda items, James Brady added one administrative item, and Nick Dudiak added one field project item. James Brady stated that John Westlund and Polly Hessing of the Wildlife Conservation Division (WC) would address the meeting for a short period to discuss Hessing's research at McNeil River. Lee Hammarstrom advised that Ron Stanek and Jim Fall of the Subsistence Division (SD) would attend the meeting briefly discuss the new subsistence fishery in Seldovia Bay.

REVIEW OF 1995 ACTION ITEMS

James Brady initiated a review of the finfish action items generated during the previous year's annual staff meeting (see RIR No. 2A95-29), summarized as follows:

1. Policy on personal use of fish taken aboard research vessels (Brady) - still in development.

2. Status of seine fishing violations at Tonsina Creek in Resurrection Bay during 1994 (Bucher) - pursuit of this case was dropped because the main witness refused to testify.
3. Solution to Mikfik Creek beaver dam problem (Bucher) - situation resolved itself during 1995 as no beavers were active, and the old dams were not rebuilt. This is not considered a long-term solution, but Bucher felt that the solution is a responsibility of WC.
4. Memo on the Regional Research/Development Biologist meeting (Simpson) - a summary table was generated from the meeting (see Appendix A.6) and subsequently distributed but no memo was written.
5. Windy Bay pre-emergent salmon fry surveys (Bucher) - never initiated due to lack of regional approval. Hilsinger suggested possibly using fry surveys to document potential damages as a result of heavy fall '95 rains, but Brady pointed out that Mark Dickson documented little damage during on-grounds and aerial observations following the rains. Several questions were raised regarding the baseline data used to compare the results of the new survey. Bucher also added that he has fielded questions regarding the effects of the cold and relatively snowless winter of '95-'96 on salmon fry.
6. Bear Lake biological escapement goal (BEG) inclusion into the Trail Lakes Annual Management Report (AMP; Bucher) - done. 1,000 sockeye salmon, from a total of 5-8,000 escapement goal, are reserved for natural spawning.
7. Meeting to discuss LCI research needs (Brady) - done.
8. New research biologist will compile list of research needs (Brady) - NOT. No researcher was hired during 1995 to pursue this action item.
9. Interact with Polly Hessing (WC) regarding research into McNeil River bear/chum relationships (Brady/Bucher) - ongoing. Further information can be found in a later section of this report dealing specifically with this subject.
10. Transfer of skiff to McNeil River during herring season (Brady) - done.
11. Obtain sex ratio and average weight data for LCI pinks (Bucher) - done. Generally this worked well during 1995 although some question of accuracy lingered. Consensus was that the only way to obtain truly accurate data would be to have the staff undertake a sampling program as opposed to Cook Inlet Aquaculture Association (CIAA).
12. Blue book package submission by new research biologist (Brannian/Fried) - done despite the absence of a new research biologist. Brady reminded the group not to be afraid to develop a proposal for a desired project, but cautioned that funding an increment often means cutting an existing one.
13. Research examples of a performance bond (Brady/Hilsinger) - done, sort of. The general consensus of the regional staff is that performance bonds are not really necessary for the test fishing/sampling we do, and the difficulties associated with them makes them somewhat impractical. Hilsinger suggested that staff should simply contract with a processor as in the past and get the job done at the time of the commercial fishery.
14. Research the services of someone to read herring scales at the Homer office during the 1995 fishery (Fried) - done.

SALMON TOPICS

Management and Development

Pre-Audits

James Brady led a discussion on budgets and pre-audits, stating that there was no accurate status report at this time because pre-audits were still "trickling in". John Hilsinger advised not to expect any FY96 year-end purchasing because many items ordered and purchased in FY95 were actually charged to FY96, and additionally the division was not allowed to spend excess Line 100 moneys (as was typical in past years) for Lines 2-500. Part of the justification for this was a red flag raised by the fact that many regions within the division reported an excess in Line 100 money, apparently an unusual situation. Approximately $150K Line 100 money was "taken back" from Region II at the end of FY95. For this fiscal year, budget managers are advised to identify any excess Line 100 money early and if necessary attempt to move it to another line prior to the end of the FY. Steve Fried and Bill Bechtol reported that excess Line 100 money totaling $43K, originally slated to fund the LCI Research FB II, was available, and Wes Bucher suggested using some portion of this to fund a proposed smolt project at Upper Paint Lakes in Kamishak Bay.

Regarding specific issues and projects, Wes Bucher noted that the cost for the Homer office Sharp photocopier may actually be less than anticipated and that this fact was already reflected in his pre-audit. He also cautioned not to expect surplus from the salmon aerial survey budget as in past years due to increased surveillance of Resurrection Bay in 1996. Nick Dudiak reported that the Limnology Section has discontinued funding for the Chenik Lake smolt project so he has had to factor this into his budget. When queried about personnel for the new Port Dick spawning channel project, he also stated that the project would proceed using existing personnel and Exxon Valdez Oil Spill (EVOS) funding through September.

James Brady handed out the FY97 "Yellow Book" requests for LCI salmon and herring, as well as those for the entire region (see Appendix A.2, A.3, A.4). The biggest change for LCI is a test fish allocation increase from $15K to $30K.

In summary, John Hilsinger cautioned everyone that funding will continue to get tighter due to reduced budgets and falling revenues, as well as the disappearance of oil spill moneys. The Department also now has less authority to accept money from outside sources even if it is offered up to fund projects. John stressed that he will continue his attempts to increase test fish moneys and program receipt authority. In an attempt to overcome inflation and maintain area staffing levels, region has: 1) decided to eliminate one of the regional management biologist positions after January 1997(?); and 2) shifted some positions to oil spill funding.

1996 Salmon Season Overview/Management Plans

Wes Bucher handed out the 1996 LCI salmon forecast table (Appendix A.5) and explained that the big surprise for 1996 was Resurrection Bay sockeyes. If the sockeye harvest forecast of 339,000 fish is realized, it will represent a new record. Also at Bear Lake, less restrictive closed waters and more liberal fishing periods are anticipated for the sockeye fishery in an attempt to harvest the larger return in 1996 and reduce complaints about complicity with the "500-yard" restriction from the terminus of the Resurrection River. Grouse Lake is also expected to produce a first-year adult return of up to 80,000 sockeyes overall, with an estimated 10,000 forecasted for sport harvest and the remainder expected to comprise Trail Lakes hatchery cost recovery harvest. James Brady added a final gem to the Resurrection Bay discussion, stating that because of the history of manipulation and enhancement of the sockeye stocks, Bear Lake is now considered a "genetic sewer".

English Bay is another sockeye system with an optimistic outlook and therefore was discussed at some length. Wes Bucher stated that the 1996 forecasted return is 20,000 to 35,000 fish, with 10-15K necessary for escapement. The escapement number was determined during a meeting held in Homer between Department staff (including Limnology Section), representatives of Chugach Regional Resources Corporation (CRRC), and representatives of Nanwalek village. Included in the escapement goal is consideration for 2K sockeyes necessary for brood stock and another 250 fish harvested for subsistence use upstream of the weir. CRRC intends to submit a Permit Alteration Request (PAR) for in-river cost recovery at English Bay Lakes. Wes Bucher pointed out that there was not yet total staff agreement on the considerations and recommendations regarding the brood stock plans for the enhancement project. Concerns were expressed for the genetic integrity of the stock, which in this case is not simply limited to the stock of origin since only English Bay Lakes brood stock has been utilized over the course of this project's life. There may be a need or requirement to utilize naturally spawned adults, as opposed to hatchery produced adults, for hatchery brood stock in order to maintain genetic integrity. A consensus was reached regarding tagging, as all present felt the only way to differentiate between naturally spawned individuals and pen-reared individuals was to tag 100% of the pen-reared fish. After graphically illustrating the very large forecasted adult sockeye returns to English Bay by the year 2000, Nick Dudiak asked about the mechanism to restrict the upper limit of stocking numbers, and Ellen Simpson said this was already determined within the Fish Transport Permit (FTP). She suggested staff work closely with Dave Daisy (CRRC) to "negotiate" if necessary to keep the upper limit down to a suitable number.

In terms of fisheries management, Wes Bucher alerted everyone that the optimistic forecast for English Bay Lakes suggested an active management role in the Port Graham Subdistrict, which has been absent for many years. Plans are to allow the subsistence fishery, which opens April 1 by regulation, to remain open during the sockeye return and closely monitor early catches. If warranted, the commercial set gillnet fishery will be allowed to open as soon as run strength can be assessed. Inseason adjustments are likely. Management will be cautious, and seining will not likely be allowed until the success of the enhancement project has proven consistent. Staff will evaluate the commercial fishery over the next three seasons to determine if the allocative

considerations should be brought before the Board of Fisheries for review and developed through a detailed management plan.

Hatcheries

On the subject of hatchery Annual Management Plans (AMP's), Wes Bucher stated that CIAA had not yet submitted draft AMP's for hatcheries involved in LCI enhancement programs for staff review. The "new format" developed by Nick Dudiak is planned for use in the Trail Lakes and Crooked Creek AMP's due to its logical and understandable organization. Ellen Simpson is responsible for compiling a postseason "report card" for various PNP hatcheries to critique their actual performance against the goals stated in the AMP's, and she stated she hoped to distribute a tabulation of 1995 in the next two weeks.

Regarding hatchery cost recovery, much discussion centered around Cook Inlet Seiners Association (CISA). Primarily, CISA was investigating the feasibility of restricting (NOT eliminating) the personal use/recreational sockeye fishery at China Poot Bay until the hatchery revenue goal for that area was achieved. CISA had also asked what gear was allowable for cost recovery in LCI. Wes Bucher has urged CISA to re-think their plans for cost recovery in efforts to increase efficiency. One way is to put more effort into cost recovery at Bruin Lake (Kamishak Bay) since this would alleviate the problems created by the high profile of China Poot cost recovery. In the long term, if Grouse Lake sockeye enhancement proves successful, CIAA may be able to limit cost recovery to only that system.

At other areas, Port Graham hatchery expects 7-10K pinks back this year, all of which would be needed for brood stock, so no cost recovery will occur. At Tutka, the situation should be similar to 1995 with the exception that all returning fish may be needed for cost recovery and brood stock based on price predictions. Ellen Simpson inquired about the status of the Port Graham hatchery coho salmon PAR. Apparently the PAR has been approved and signed, but the FTP has not. John Hilsinger stated that the FTP for this program is not likely to be signed until a mutually agreed upon operational plan has been incorporated into the Port Graham AMP. The Scurvy Creek hatchery is a non-issue at this time.

At Crooked Creek hatchery, CIAA would like to take brood stock at the hatchery as opposed to remote collection. However, due to conflicts with kings returning to Crooked Creek, CIAA has been directed to develop a plan by which to segregate sockeyes from kings such that the potential for transmission of IHN from sockeyes to naturally-spawning kings is reduced or eliminated.

Field Projects

Nick Dudiak presented a brief history of Chenik Lake sockeye escapements/returns as well as the IHN problem in recent years. In an effort to recover from the IHN outbreak and minimize transmission of the virus, stocking levels have been reduced (to decrease rearing density) and escapements are limited to a maximum of 10K. It is hoped these two measures will keep the IHN problem at bay. John Hilsinger asked why we don't simply allow 12-14K spawners into the system and do away with stocking. Nick Dudiak indicated that even this level of adults may

promote outbreaks of IHN in this slow flushing system. On a positive note, Nick explained that Chenik smolt have been IHN-free since 1993.

Regarding the Chenik Lake weir, Nick Dudiak and Lee Hammarstrom explained plans for the 1996 Chenik Lake smolt and adult weir projects, respectively. Few changes are planned from previous seasons, although Nick stated that he has had to creatively budget for the smolt project because the Limnology Section has removed Line 100 funding for the project. Homer staff is slowly attempting to remedy the consistent sideband communications problems plaguing the Chenik Lake field camp and will next try a dipole antenna at the field site. It is hoped that MAC-TEL will eventually place a cellular phone translator on the west side of Cook Inlet to alleviate radio problems. Nick Dudiak complimented Carla Milburn and Josephine Ryan for the excellent job they had done as the Chenik weir crew.

Leisure Lake fertilization will continue as in the past. Nick Dudiak showed overheads depicting the positive effect of fertilization on this sockeye system. Stocking density has remained consistent at 1.5-2.0M annually. A sockeye pen-rearing project (see Appendix A.7) has been proposed for Leisure Lake, specifically requested by LCI Fisheries Development Corporation, but the costs associated with such a project appear too high for this fledgling organization since it cannot receive "enhancement taxes" as does CIAA.

Nick Dudiak reviewed limnology evaluation for all LCI lake systems. At Port Dick Lake, sockeye fry stocking proved to overwhelm the zooplankton production capacity and the project was discontinued. Full recovery of zooplankton populations takes up to 4 years after the last stocking, demonstrating the importance of annual limnology analysis of all lakes stocked with sockeye fry in order to preclude this problem. Hazel Lake stocking density has remained around 1M based on zooplankton analysis, and the high numbers of above-average size smolts observed in 1994 could equate to a large return in 1996. Kirschner Lake is one of the least productive lakes in terms of zooplankton yet remains one of the most consistent sockeye producers in LCI. The appearance of age-2 smolts recently at Kirschner suggests that lake productivity and subsequent adult returns could begin to diminish. Ursus Lake stocking levels presently are 0.25M but zooplankton production may be decreasing with a subsequent decrease in adult returns; expect limited returns to this system. Bruin Lake also receives 0.25M fry annually, but again zooplankton levels appear to be declining from baseline. Lower Paint Lake receives 0.25M, zooplankton levels began to decrease after initial stocking but appear to be rising during recent years. Upper Paint Lake stocking levels of 0.35-0.50M appear have little effect on the zooplankton production as levels have remained fairly constant.

A Paint River smolt project has been proposed to definitively determine whether stocked fry are surviving to the smolt stage and emigrating from the lakes (see Appendix A.8). Due to high costs associated with this remote project, and since CIAA has been unwilling to undertake such a project, funding has been an issue, and John Hilsinger warned that Designated Program Receipts were unlikely. Wes Bucher suggested diverting some funding presently used for stocking the lakes into evaluation.

Delight and Desire Lakes fertilization studies have been proposed for these two Outer District systems (see Appendix A.9). Nick Dudiak stated that the proposal is likely to be submitted to the Exxon Valdez Trustee Council for funding. John Hilsinger/James Brady raised a question of who would continue this (and other projects) should Nick take advantage of a pending RIP bill. Nick responded that his current staff (Mark Dickson, Tom Balland, Phil Cowan) was capable of continuing the work Nick was now undertaking. In addition, he mentioned the possibility of making this a Limnology-based project.

Nick Dudiak reviewed the timeline of events for the Port Dick spawning channel project and showed the final Environmental Assessment. Actual excavation work is slated to begin in June 1996. He also reminded the group of the exemplary job that Mark Dickson had done to keep the Port Dick project on track, especially through the EA process.

Commercial regulatory marker maintenance was explained by Lee Hammarstrom. No major trips aboard the *R/V PANDALUS* have occurred since 1993 for marker maintenance as most repair has been accomplished in conjunction with regularly scheduled aerial and/or ground surveys. A two-seat helicopter was contracted in 1996 to ferry Greg Demers to various Kamishak locations for comprehensive marker maintenance in that district.

Nick Dudiak quickly summarized his major Dingell/Johnson contracts, stating that all DJ goals and objectives had been achieved in 1995. Nick also pointed out that the brood stock collection program for chinook salmon on the Homer Spit, developed by he and his staff, was a smashing success. Tom Balland's efforts were instrumental in this success.

Southern District Personal Use Gillnet Fishery

Lee Hammarstrom introduced the subject of the Southern District personal use gillnet fishery with a brief review of 1995 activities, highlighted by the infamous "Harborgate" affair. For 1996, the fishery is expected to be very similar. However, after 1996 the complexion of the fishery could change substantially due to discontinuation of the Caribou Lake coho stocking program in 1994 and the absence of adults returning to that system. The PU fishery is likely to take much longer to reach the guideline harvest range of 2.5-3.5K cohos, which in turn is likely to increase the harvest of natural segments of the coho stocks as well as the enhanced spit component. John Hilsinger directed the area staff to manage this fishery for the low end of the guideline harvest range based on the aforementioned facts. Additionally he encouraged staff to increase monitoring the natural stocks since this could become an issue with increased harvest in the PU fishery.

Regulatory Changes

Ron Stanek and Jim Fall (Subsistence Division, Anchorage) were requested to attend the LCI staff meeting to address issues surrounding the new subsistence gillnet fishery established by the Board of Fisheries in the Seldovia area (see Appendix A.10). SD plans to hold an informational/educational meeting during March for residents of Seldovia. SD intends to have a

representative travel to Seldovia just before the fishery opens to issue permits and informational handouts. After this initial visit, SD will designate someone (police chief or harbormaster?) within the village to issue permits after the fishery opens. At this time there are no plans to issue permits anywhere other than in Seldovia. Once the fishery opens, permit holders will be requested to call in their catches on a regular basis to the Homer office. Approximately mid-season SD may hold another public meeting in Seldovia to evaluate progress of the fishery, collect catch information, listen to concerns of permit holders, and address any problems. As the fishery progresses into May, chinook catches are likely to increase and SD is willing to send a representative to Seldovia to provide more intensive catch monitoring in order to manage for the 200-fish cap imposed by the Alaska Board of Fisheries (BOF). The timing of this monitoring will be dependent on the catch rates as indicated by the voluntary call-in program. Regarding the "late" subsistence season in August, SD will likely send a representative to Seldovia on the last open weekend to collect coho catch information, which is necessary to account for in the Southern District personal use gillnet fishery.

Much discussion centered around waters potentially open to subsistence gillnet fishing in Seldovia Slough. Although the BOF did not intend to harvest enhanced chinook salmon returning to this stocking site, regional staff maintained that we could not close these waters by Emergency Order (EO) using a justification of "interpreting the Board's intent". Regional staff also felt these waters could be kept closed under an existing statute (**5 AAC 39.290 CLOSED WATERS**). Regional staff additionally volunteered to travel to Seldovia to make a determination of the appropriate placement of regulatory markers to comply with the aforementioned statute.

Research and Stock Assessment

Pre-audits

see same subject under "MANAGEMENT AND DEVELOPMENT"

Forecast/Research Needs

Bill Bechtol pointed out that the LCI pink salmon forecast had been completed and sent to Hal Geiger at HQ. Bill is also in the process of "tweaking" Henry Yuen's software that extracts data from various files such as aerial surveys, ground surveys, fish ticket harvest reports, oral processor harvest reports, etc., for inseason management purposes, in an effort to purge any glitches. Linda Brannian assured the staff that Tim Baker would be working on streamlining the same programs to ensure that they would be compatible with the newest version of the fish ticket system. Once Homer is on the state Wide Area Network (WAN), users will be able to access historical fish ticket databases out of Juneau.

Stock Assessment

The LCI salmon "stock assessment" program will remain status quo, carrying on the programs undertaken by Yuen. It is best characterized as bare-bones and minimally funded. The salmon scales collected during 1995 have yet to be read, and Bill Bechtol may request Line 100 funding to hire a seasonal to come on early and assist with this. Bill would also like to obtain the services of a "lab specialist", whose primary duties would be to semi-specialize in lab related functions such as scale and otolith reading and other similar procedures.

Sampling Activities for 1996 Field Season

Sampling activities in 1996 will be similar to past years according to Bill Bechtol, following the protocol established by Yuen. Some data was lost during 1995 in electronic transfer from the fish sampling board to the computer, but it is hoped that this was an isolated incident. Wes Bucher highlighted the fact that sampling and evaluation of hatchery produced sockeye returns were generally of low priority to Yuen, but that such evaluation would be valuable to management. Once again, no funding exists to incorporate new programs. Thus the consensus was that PNP hatcheries should be induced to carry out these programs as conditions of their permitting. In regards to a video escapement assessment project for the Mikfik Creek sockeye run, John Westlund (WC) reported that this CIP proposal made it through the "first cut" at the governor's office.

Regarding Tutka pink salmon, Wes Bucher stated that CIAA undertook the gathering of weight and sex ratio data during 1995, and generally provided it to staff in a timely manner, but that the accuracy of the information was questionable as it is not necessary to the hatchery operations. Consensus was that the only way for us to obtain truly accurate information is to collect it ourselves, which may be impossible with current funding and staffing.

McNeil River

see same subject under "ALL OTHER TOPICS NOT COVERED ELSEWHERE"

HERRING TOPICS

1996 Outlook/Management Strategy

Wes Bucher led the discussion regarding 1996 herring. Interest this year is high based on high prices already paid in Lower 48 fisheries as well as market and price projections. The Kamishak Bay guideline of 2,250 short tons (see Appendix A.11) is down but few changes are expected in management. Many boats have indicated they will participate in the Kodiak fishery prior to Kamishak. Cost recovery test fishing will once again take place during the fishery.

Wes Bucher stated a desire and need to collect postseason herring samples from Kamishak Bay during May. Because only $15K is allotted to the entire LCI herring management program, and because the majority of this is utilized to conduct aerial surveillance, funding could prove to limit any postseason sampling. John Hilsinger/James Brady advised that an additional $10K program receipt moneys might be available and therefore to plan for a total of $25K to encompass both aerial surveys and postseason sampling. To accomplish this, staff should plan to harvest $25K worth of herring during the cost recovery test fishing at the time of the commercial fishery rather than waiting and attempting to recoup these costs during the postseason (May) sampling.

No fishery is expected to occur in the Southern District based on recent trends but aerial assessment will begin as in the past as soon as the Kamishak Bay fishery is over. In the Outer and Eastern Districts, interest may be high due to high price projections, and if a fishery is allowed it will be through a closely monitored, permit governed program.

Research

The 1996 herring forecast was completed by Bill Bechtol, utilizing the average of several different years in the model. Bill stated plans to investigate a "stock synthesis model" developed by NMFS. He additionally will try to incorporate the Shelikof Strait age-3 herring component into the Kamishak Bay forecast in the future.

Concerning personnel logistics for the 1996 Kamishak Bay fishery, Bucher, Hammarstrom, and Demers will be aboard the *R/V PANDALUS* along with Brady and/or Hilsinger, while Bechtol, Sigurdsson, and McNeill will handle laboratory duties. Paul Desjardin requested that FWP officers be required to pay for their food and lodging while aboard the vessel for herring enforcement. Regional staff responded that this was not good politics and that FWP would not be required to pay for these services.

ALL OTHER TOPICS NOT COVERED ELSEWHERE

Computer-related

Lee Hammarstrom stated that virtually everyone in the Homer office has to some degree converted to various MSOffice software such as Word, Excel, etc. Licensing for this software seems to be adequate at present thanks to Linda Brannian. Hammarstrom also reported that progress is being made, albeit at a snail's pace, on connecting the Homer ADF&G office to the WAN. Since monthly administrative charges for the WAN have been prepaid since February 1, and because service did not actually start on that date, we may be entitled to some reimbursement depending on when the system becomes operational.

Emergency Orders/News Releases

Due to the difficulties created during 1995's "Harborgate" incident, regional staff decreed that future LCI field announcements will always reference an Emergency Order (EO) number. Such announcements, read onto the record-o-phone or via two-way radio, have the effect of EO, and as long as the EO number is referenced in the announcement the EO does not have to be actually written at the time the announcement is made. The EO policy manual is still under HQ review at this time.

First Aid Requirements

Nick Dudiak stated that everyone except Josephine Ryan (Chenik field camp) is current on requirements. Ryan is in the process of getting certified and may be able to easily "upgrade" her training to become an instructor, which might allow us to easily re-certify our other personnel when necessary. Nick Dudiak also reminded everyone that Phil Cowan has voluntarily been the Homer office "safety officer" and has done a commendable job of developing and implementing a safety program.

Radio Schedules/Frequencies

James Brady stated that last year's attempt to revamp communication time slots for area offices stalled and therefore the schedule remains status quo at this time. Wes Bucher outlined the continuing communications problems experienced between the Chenik field camp and the Homer office. One possible solution is to install a 4560 crystal in the present radio which might reduce the scheduling conflict but may not improve reliability. A dipole antenna at the field site appears to hold some promise for improving reliability as well as eliminating the need to erect separate long-wire antennas for each frequency, and would have the additional benefit of allowing the use of another frequency (4460) already installed in the field set.

McNeil River

A review of the 1995 field season, and outlook for 1996, was provided by John Westlund and Polly Hessing (WC; see Appendix A.12). The number of identifiable bears at McNeil (83) was the same as 1994, down from a peak of 90 in 1993. The number of bear use days was the lowest since 1984, continuing a decline seen over the last several years and possibly due to poor chum returns. WC has developed a new technique to provide an "index count" of bears, which is different than the absolute number of different identifiable bears; it does not rely on the factor of recognizable bears. If the index count falls below a threshold of 41 bears, management agencies must meet to determine if some action is necessary to alleviate this. In 1995, despite an index of 40.7, no such action was undertaken as it was determined that data collection methodology in 1994 and 1995 was inconsistent with that of previous years.

Volunteers will again be utilized at the start of the field season to set up camp. The first volunteers are made up of the initial permittees, generally from environmental groups interested in management of the sanctuary. Candidates for this first group can be nominated through John

Westlund. The second group of volunteers are made up of various WC staff, whose basic objective is to productively replace regular camp staff for brief rotations out. In 1995, the volunteers accomplished a variety of tasks at McNeil, including construction of a new cabin and additional clearing of beaver dams in Mikfik Creek.

In other related McNeil news, three Sci/Ed permits were issued to Gov. Tony Knowles in 1995, while ADF&G Commissioner Frank Rue is on the books for 1996. At the fall 1995 Board of Game (BOG) meeting, the Board voted to close hunting within McNeil Refuge effective July 1, 1996. Four permits were issued for the fall of 1995, with one successful, while 4 have been issued for the spring 1996 season (but none are expected to actually hunt).

Polly Hessing reviewed her 1995 program at McNeil River. Going into the season, she intended to:

- compile numbers of fish caught by bears during ½ hour periods each day as long as they remained near the falls; categorize bears by age and sex;
- collect behavioral info on bears as related to salmon (i.e. do lower numbers of fish alter other behaviors?);
- add to Yuen's fish model, especially stream life estimate.

Beach seining for chums was mostly unsuccessful. Of the 12 fish tagged, 2 were caught by bears. The longest life of a tagged fish was 17 days. The longest life of a tagged fish staying within the falls was 14 days. More bears were observed in 1995 eating spawned out fish in the lower reaches below the falls, and fewer spawned out fish were observed washing out into salt water, than in previous years. A total of 3,563 chums were actually *observed* caught by bears, leading to an *adjusted* number of 8,960 chums caught in 1995. This can be compared to the following adjusted numbers from previous years:

1994 = 11,500	1991 = 15,974	1988 = NO DATA
1993 = 16,400	1990 = 20,520	1987 = 35,006
1992 = 24,500	1989 = 34,592	

For 1996, Polly has no plans to collect fish for mark/recapture studies as time and logistics will preclude this. WC staff volunteered to assist when practical if CFM&D undertakes such a project. Polly will attempt to sample more during hours of darkness in order to grossly assess fishing activities of bears at night. She will also continue to monitor CPUE as in the past.

James Brady requested that CFM&D be allowed to collect chums for AWL samples on an opportunistic basis within McNeil Lagoon in the event that no commercial fishery occurs, and to additionally collect chums for genetic samples if necessary. WC agreed to allow this but requested as much lead time as possible. CFM&D promised to keep the operation as clean as possible, i.e. limiting the amount of vessel time within the lagoon and sampling the fish on a vessel located outside of the lagoon.

Office Manager

Since Al Kimker will be retiring in August 1996, James Brady advised all Homer personnel to submit nominations for office manager to him. Marnee Beverage was cited as the most logical choice, but Linda Brannian cautioned that her job class specs may not allow her to perform such duties.

ADMINISTRATIVE ISSUES

Staff Organization

With pending retirements of Al Kimker and Nick Dudiak, and the upcoming hiring of a new research position, the Homer office CFM&D organization is dynamically evolving at this time. Regional staff advised patience while things shake out and also requested that current personnel be "inventoried" so that Region can have an updated list of employees and their job duties.

LCI Research

Bill Bechtol stated that the hiring process for the new research position is progressing and that an individual should be offered the job in the very near future. Target date to have this position online is March 1.

Leave Usage, Evaluations, PDQ's, etc.

No problems were reported for any Homer CFM&D individuals regarding leave usage. Evaluations and PDQ's for the most part have been successfully completed for Homer CFM&D personnel.

Table 1. List of participants at the 1996 Lower Cook Inlet CFM&D Division finfish staff meeting held in Anchorage on February 7 and 8.

COMMERCIAL FISHERIES MANAGEMENT & DEVELOPMENT DIVISION

Anchorage:		*Homer:*
John Hilsinger	Linda Brannian	Wes Bucher
James Brady	Steve Fried	Nick Dudiak
Ellen Simpson		Lee Hammarstrom

SUBSISTENCE DIVISION (Anchorage)

Ron Stanek	Jim Fall

WILDLIFE CONSERVATION DIVISION (Anchorage)

John Westlund	Polly Hessing

Table 2. List of Action Items assigned at the Lower Cook Inlet CFM&D Division finfish staff meeting held in Anchorage February 7-8, 1996.

ACTION ITEM NO.	ACTION ITEM DESCRIPTION	REPORT CARD
1	E. Simpson will consult with J. Seeb regarding escapement and brood stock collection for sockeye salmon at English Bay Lakes, and will draft a letter to Chugach Regional Resources Corporation (i.e. Dave Daisy) expressing the Department's concerns and requesting that CRRC implements some sort of Department-approved tagging and brood stock program.	
2	N. Dudiak will maintain contact and a continuing dialogue with Cook Inlet Aquaculture Association regarding 1996 hatchery Annual Management Plans, to ensure that they are completed in a satisfactory format and in a timely manner prior to the actual field season.	
3	Homer finfish project leaders/supervisors will compile a "staff summary" list of all personnel they supervise, including job function, project name and description, funding, and other pertinent information. This list will be submitted to the regional staff and the information will be pooled on a region-wide basis so that positions can be compared to other similar positions within the region.	
4	E. Simpson will attempt to arrange a meeting between appropriate representatives of Cook Inlet Aquaculture Association, LCI staff, and regional staff, to coincide with the Upper Cook Inlet staff meeting in Soldotna on March 11-12, in order to start a dialogue regarding evaluation of LCI salmon enhancement projects, with specific emphasis on marking programs.	
5	L. Hammarstrom will work with Ron Stanek (Subsistence Div.) to develop a voluntary call-in program to tally salmon catches in the new Seldovia subsistence gillnet fishery. Additionally the two will develop an informational handout packet regarding same.	
6	L. Hammarstrom will develop a map of Seldovia Bay showing areas open to subsistence gillnet fishing.	
7	Regional staff (J. Hilsinger. J. Brady) will accompany Homer area staff (W. Bucher, N. Dudiak, L. Hammarstrom) to Seldovia to erect appropriate closed waters markers in the area of Seldovia Slough prior to April 1.	

Table 1. (page 2 of 2)

ACTION ITEM NO.	ACTION ITEM DESCRIPTION	REPORT CARD
8	L. Brannian will follow up on funding source for next fiscal year's monthly Homer WAN charges, and will also follow up on reimbursement for WAN charges already paid in advance for the Homer office but not actually utilized due to a delay in the connection of the Homer office.	
9	Homer finfish management staff will develop a draft form for field season announcements, incorporating a reference to specific E.O. numbers and including a place for signature of the composing biologist, and will submit this form to the regional staff for review.	
10	J. Brady will contact Paul Desjardin regarding the issue of charging FWP officers for any time spent aboard the *R/V PANDALUS* in the line of fishery enforcement work.	
11	All Homer area staff will submit nominations for a new Office Manager to J. Brady, since Al Kimker will be retiring in August 1996.	
12	J. Brady will investigate the potential for increasing the program receipt authority for Kamishak Bay herring test fishing from $15.0K to $25.0K, and will confirm this when allocations for the balance of the fiscal year are finalized.	

1996 LOWER COOK INLET STAFF MEETING

Wednesday, February 7 9:30 a.m.

I. SALMON

A. Management and Development

1. Pre-audits/review action items - Brady

2. 1996 Season Overview/Management Plans - Bucher
   a. Resurrection Bay
   b. English Bay

3. Hatcheries - Simpson/Dudiak/Bucher
   a. AMP's/PAR's
   b. PNP oversight - Crooked Creek IHNV status
   c. Cost recovery
      (1) Bruin/Kirschner Lake
      (2) China Poot
      (3) Hazel Lake
      (4) Tutka Hatchery
      (5) Port Graham Hatchery
      (6) Bear Lake

4. Field projects - Hammarstrom/Dudiak
   a. Chenik Lake evaluation (Funding status)
   b. Chenik Lake weir project
   c. Leisure Lake fertilization project
   d. Leisure Lake long-term rearing
   e. Limnology evaluation
   f. Paint River smolt studies
   g. Delight/Desire Lake fertilization studies
   h. Port Dick spawning channel
   I. District marker maintenance
   J. DJ Contract

5. Southern District P. Use gillnet fishery - Hammarstrom
   a. Caribou Lake coho stocking status - Dudiak

6. Regulatory changes
   a. Seldovia Subsistence fishery - Hammarstrom Stanek @ 1030 2/8
   b. China Poot Dip Net Extension - Dudiak

B. Research and Stock Assessment

1. Pre-audits - Fried
2. Forecasts/Research Needs - Bechtol
3. Stock Assessment
   a. Natural stocks
   b. Enhanced stocks
   c. PNP production

4. Sampling activities for 1996 field season - Bechtol
   a. Catch Sampling - mean weights
   b. Resurrection Bay sockeye
   c. McNeil River chums – Westlund @ 1400 2/8
   d. Tutka Pinks (weights & sex ratios)

II. HERRING

A. 1996 Outlook/Management Strategy - Bucher

1. Kamishak
2. Southern
3. Outer/Eastern

B. Research - Bechtol

1. Forecast/Stock assessment/inseason sampling
2. Postseason sampling
3. Personnel/logistics
   a. Boat
   b. Homer

~~4. For~~ c. FWP

III. ALL OTHER TOPICS NOT COVERED ELSEWHERE

A. Computer network software - Hammarstrom
B. Wide Area Network - Hammarstrom
C. Emergency Orders/News Releases - Brady
D. First Aid Requirements
E. Radio Schedules/Frequencies
F. McNeil River - John Westlund
G. OFFICE MGR.

IV. ADMINISTRATIVE ISSUES - Brady

A. Staff Organization
B. LCI Research
C. Leave Usage, Evaluations, PDQ'S, etc.

Alaska Department of Fish and Game
Project Summary Report
Commercial Fisheries Management and Development
FY 97 Request

Project Number			71000	72000	73000	74000	75000	Total	GF	FED	PR	IA	GFM	F&G	CIP	MONTHS
Region 2																
Fishery Unit	0700	Central Regional Administration														
FM-300	*	Regional Supervision, Centr	108.8	26.0	48.2	10.7	10.0	203.7	203.7	0.0	0.0	0.0	0.0	0.0	0.0	16.1
FM-301	*	Management Supervision R2	130.5	0.0	0.0	0.0	0.0	130.5	130.5	0.0	0.0	0.0	0.0	0.0	0.0	19.0
FM-302	*	Research Supervision, Centr	82.1	0.0	0.0	0.0	0.0	82.1	82.1	0.0	0.0	0.0	0.0	0.0	0.0	12.0
FM-303	*	Biometric Support, Central	157.0	4.0	1.5	1.0	0.0	163.5	163.5	0.0	0.0	0.0	0.0	0.0	0.0	24.0
FM-304	*	Central Programming Suppo	66.4	0.0	0.0	0.0	0.0	66.4	66.4	0.0	0.0	0.0	0.0	0.0	0.0	12.1
FM-305	*	Central Data Entry Support	44.8	0.0	0.0	0.0	0.0	44.8	44.8	0.0	0.0	0.0	0.0	0.0	0.0	12.2
TOTAL		Central Regional Administra	589.6	30.0	49.7	11.7	10.0	691.0	691.0	0.0	0.0	0.0	0.0	0.0	0.0	95.4
Fishery Unit	0800	Copper/Bering River Salmon														
FM-315	*	Fishery Monitoring, CBR	15.2	0.0	0.5	0.3	0.0	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
FM-316	*	Delta Aerial Surveys	0.0	0.0	12.0	0.0	0.0	12.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FM-317	*	Catch Sampling, CR/BR	39.1	0.0	0.5	1.7	0.0	41.3	41.3	0.0	0.0	0.0	0.0	0.0	0.0	8.5
FM-318	*	Miles Lake Sonar	50.9	0.0	6.0	8.5	0.0	65.4	65.4	0.0	0.0	0.0	0.0	0.0	0.0	10.0
FM-319	*	CR/BR Sockeye Escapemen	4.0	0.0	6.0	1.3	0.0	11.3	11.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0
FM-320	*	Copper/Bering Markers	0.0	0.0	8.0	0.0	0.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL		Copper/Bering River Salmon	109.2	0.0	33.0	11.8	0.0	154.0	154.0	0.0	0.0	0.0	0.0	0.0	0.0	23.5
Fishery Unit	0900	Prince William Sound Salmon														
FM-330	*	Program Management, PWS	285.1	2.0	35.2	8.0	0.0	330.3	330.3	0.0	0.0	0.0	0.0	0.0	0.0	55.2
FM-331	*	PWS Aerial Surveys	0.0	0.0	30.0	0.0	0.0	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FM-332	*	Catch Sampling, PWS	37.7	0.2	0.2	0.8	0.0	38.9	38.9	0.0	0.0	0.0	0.0	0.0	0.0	8.1
FM-333	*	Coghill Weir	17.8	0.0	2.0	3.9	0.0	23.7	23.7	0.0	0.0	0.0	0.0	0.0	0.0	3.0
FM-334	*	PWS Pink Salmon CWT Reco	46.3	0.0	33.9	0.0	0.0	80.2	80.2	0.0	0.0	0.0	0.0	0.0	0.0	10.1
FM-335	*	PWS/CR Research	143.3	3.0	0.5	2.0	0.0	148.8	148.8	0.0	0.0	0.0	0.0	0.0	0.0	24.0
FM-336	*	PWS Bio\Rehab	46.4	1.5	8.9	1.1	0.0	57.9	57.9	0.0	0.0	0.0	0.0	0.0	0.0	7.5
TF-337	*	PWS Salmon Test Fish	40.4	0.0	40.3	6.5	2.0	89.2	0.0	0.0	89.2	0.0	0.0	0.0	0.0	8.2
TOTAL		Prince William Sound Salmo	616.9	6.7	151.0	22.3	2.0	798.9	709.8	0.0	89.2	0.0	0.0	0.0	0.0	116.1

Alaska Department of Fish and Game
Project Summary Report
Commercial Fisheries Management and Development
FY 97 Request

Project Number			71000	72000	73000	74000	75000	Total	GF	FED	PR	IA	GFM	F&G	CIP	MONTHS
Fishery Unit	**1000**	**Upper Cook Inlet Salmon**														
FM-350	*	Program Management, UCI	180.2	1.0	26.6	1.5	0.0	209.3	209.3	0.0	0.0	0.0	0.0	0.0	0.0	36.0
FM-351	*	UCI Research	210.5	0.0	1.0	0.0	0.0	211.5	211.5	0.0	0.0	0.0	0.0	0.0	0.0	36.0
FM-352	*	Catch Sampling/Stock ID, U	53.0	2.4	3.2	2.7	0.0	61.3	61.3	0.0	0.0	0.0	0.0	0.0	0.0	13.0
FM-353	*	Kenai River Sonar	38.0	0.4	3.3	7.2	0.0	48.9	48.9	0.0	0.0	0.0	0.0	0.0	0.0	8.1
FM-354	*	Kasilof River Sonar	28.1	0.0	0.5	2.8	0.0	31.4	31.4	0.0	0.0	0.0	0.0	0.0	0.0	5.5
FM-355	*	Susitna River Sonar	26.4	1.0	7.7	5.6	0.0	40.7	40.7	0.0	0.0	0.0	0.0	0.0	0.0	6.0
FM-356	*	Crescent River Sonar	20.2	0.4	4.7	3.5	0.0	28.8	28.8	0.0	0.0	0.0	0.0	0.0	0.0	4.3
FM-357	*	Upper Cook Inlet Subsistenc	7.9	0.0	2.1	0.0	0.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5
FM-358	*	Fish Creek Weir	12.6	0.0	0.7	1.2	0.0	14.5	14.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5
TF-357	*	Fishery Monitoring UCI Salm	24.9	0.0	11.2	0.3	0.0	36.4	0.0	0.0	36.4	0.0	0.0	0.0	0.0	7.7
TF-358	*	Offshore Test Fishing	10.4	0.7	81.9	0.5	0.0	93.5	0.0	0.0	93.5	0.0	0.0	0.0	0.0	1.5
TF-359	*	Set Net Buoy Stickers	0.0	0.0	0.0	18.0	0.0	18.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0	0.0
TOTAL		Upper Cook Inlet Salmon	612.2	5.9	142.9	43.3	0.0	804.3	656.5	0.0	147.9	0.0	0.0	0.0	0.0	124.1
Fishery Unit	**1100**	**Lower Cook Inlet Salmon**														
FM-380	*	Program Management, LCI	146.7	1.5	14.2	4.0	0.0	166.4	166.4	0.0	0.0	0.0	0.0	0.0	0.0	25.0
FM-381	*	LCI Research	114.8	2.5	0.5	0.8	0.0	118.6	118.6	0.0	0.0	0.0	0.0	0.0	0.0	24.0
FM-382	*	LCI Aerial Surveys	0.0	0.4	24.0	0.0	0.0	24.4	24.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FM-383	*	Catch Sampling, LCI	26.3	5.0	1.2	0.6	0.8	33.9	33.9	0.0	0.0	0.0	0.0	0.0	0.0	6.5
FM-384	*	Escapement Surveys, Groun	17.3	0.0	11.2	0.9	0.0	29.4	29.4	0.0	0.0	0.0	0.0	0.0	0.0	4.0
FM-385	*	LCI Bio/Rehab	76.5	4.1	28.1	11.0	4.0	123.7	123.7	0.0	0.0	0.0	0.0	0.0	0.0	14.5
TOTAL		Lower Cook Inlet Salmon	381.6	13.5	79.2	17.3	4.8	496.4	496.4	0.0	0.0	0.0	0.0	0.0	0.0	74.0
Fishery Unit	**1200**	**Bristol Bay Salmon**														
FM-400	*	Program Management, East	220.9	14.3	36.1	13.6	0.0	284.9	284.9	0.0	0.0	0.0	0.0	0.0	0.0	37.5
FM-401	*	Fishery Monitoring, Eastside	49.5	1.0	28.6	0.5	0.0	79.6	79.6	0.0	0.0	0.0	0.0	0.0	0.0	8.6
FM-402	*	Kvichak Tower/Branch Aerla	26.9	0.6	8.9	2.9	0.0	39.3	39.3	0.0	0.0	0.0	0.0	0.0	0.0	4.6
FM-403	*	Naknek Tower	24.6	0.0	5.1	2.6	0.0	32.3	32.3	0.0	0.0	0.0	0.0	0.0	0.0	4.5
FM-404	*	Egegik Tower	22.2	0.0	5.0	3.2	0.0	30.4	30.4	0.0	0.0	0.0	0.0	0.0	0.0	3.9
FM-405	*	Ugashik Tower	21.1	0.0	7.1	2.1	0.0	30.3	30.3	0.0	0.0	0.0	0.0	0.0	0.0	3.4
FM-406	*	Kvichak Smolt	32.4	0.0	7.3	3.2	0.0	42.9	42.9	0.0	0.0	0.0	0.0	0.0	0.0	6.0

Alaska Department of Fish and Game
Project Summary Report
Commercial Fisheries Management and Development
FY 97 Request

Project Number			71000	72000	73000	74000	75000	Total	GF	FED	PR	IA	GFM	F&G	CIP	MONTHS
FM-407	*	Egegik Smolt	30.8	0.0	6.5	3.8	0.0	41.1	41.1	0.0	0.0	0.0	0.0	0.0	0.0	5.2
FM-408	*	Bristol Bay Research	192.3	7.6	6.0	3.0	0.0	208.9	208.9	0.0	0.0	0.0	0.0	0.0	0.0	36.0
FM-409	*	Program Management, West	269.1	3.7	63.4	8.0	0.0	344.2	344.2	0.0	0.0	0.0	0.0	0.0	0.0	48.0
FM-410	*	Fishery Monitoring, Westside	31.3	0.0	12.0	2.5	0.0	45.8	45.8	0.0	0.0	0.0	0.0	0.0	0.0	5.5
FM-411	*	Catch Sampling, Westside	16.8	0.6	1.2	0.5	0.0	19.1	19.1	0.0	0.0	0.0	0.0	0.0	0.0	3.0
FM-412	*	Wood River Tower	18.8	0.2	1.6	2.6	0.0	23.2	23.2	0.0	0.0	0.0	0.0	0.0	0.0	3.0
FM-413	*	Nushagak Sonar	45.8	1.5	4.5	5.2	0.0	57.0	57.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5
FM-414	*	Nushagak Sonar Coho	17.5	0.7	0.0	2.2	0.0	20.4	20.4	0.0	0.0	0.0	0.0	0.0	0.0	3.0
FM-415	*	Igushik Tower	20.1	0.0	1.2	1.6	0.0	22.9	22.9	0.0	0.0	0.0	0.0	0.0	0.0	3.4
FM-416	*	Togiak Tower	22.5	0.0	2.0	1.5	0.0	26.0	26.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9
TF-417	*	Stock Identification Test Fish	101.3	1.9	105.6	1.7	0.0	210.5	0.0	0.0	210.5	0.0	0.0	0.0	0.0	24.0
TF-418	*	Catch Sampling	45.2	1.4	12.3	0.0	0.0	58.9	0.0	0.0	58.9	0.0	0.0	0.0	0.0	10.2
TF-419	*	Kvichak Test Fish	16.4	0.0	11.3	2.7	0.0	30.4	0.0	0.0	30.4	0.0	0.0	0.0	0.0	3.0
TF-420	*	Egegik Test Fish	19.4	0.0	9.7	2.7	0.0	31.8	0.0	0.0	31.8	0.0	0.0	0.0	0.0	3.7
TF-421	*	Ugashik Test Fish	15.0	0.0	12.2	2.9	0.0	30.1	0.0	0.0	30.1	0.0	0.0	0.0	0.0	2.6
TF-422	*	Eastside District Testfish	20.9	0.0	49.5	0.0	0.0	70.4	0.0	0.0	70.4	0.0	0.0	0.0	0.0	4.5
TF-423	*	Igushik Test Fish	14.0	0.0	6.1	2.0	0.0	22.1	0.0	0.0	22.1	0.0	0.0	0.0	0.0	2.4
TF-424	*	Nushagak District Test Fish	18.7	0.0	29.9	0.0	0.0	48.6	0.0	0.0	48.6	0.0	0.0	0.0	0.0	4.5
TOTAL	Bristol Bay Salmon		1,313.4	33.5	433.1	71.0	0.0	1,851.0	1,348.4	0.0	502.8	0.0	0.0	0.0	0.0	242.9
Fishery Unit	1300	Prince William Sound Herring														
FM-435	*	PWS Herring Aerial Surveys/P	4.5	0.9	24.4	2.6	0.0	32.4	32.4	0.0	0.0	0.0	0.0	0.0	0.0	1.0
FM-436	*	Catch Sampling, PWS Herrin	20.5	0.0	0.0	2.6	0.0	23.1	23.1	0.0	0.0	0.0	0.0	0.0	0.0	4.5
TF-437	*	Herring Test Fish Funds	2.3	0.0	15.0	0.0	0.0	17.3	0.0	0.0	17.3	0.0	0.0	0.0	0.0	0.5
TOTAL	Prince William Sound Herring		27.3	0.9	39.4	5.2	0.0	72.8	55.5	0.0	17.3	0.0	0.0	0.0	0.0	6.0
Fishery Unit	1400	Cook Inlet Herring														
FM-445	*	Fishery Monitoring UCI Herrin	0.0	0.8	2.0	0.2	0.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FM-446	*	Catch Sampling, LCI	14.0	2.0	0.0	1.0	0.0	17.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
TF-447	*	LCI Herring Test Fish	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0
TOTAL	Cook Inlet Herring		14.0	2.8	32.0	1.2	0.0	50.0	20.0	0.0	30.0	0.0	0.0	0.0	0.0	3.1

Alaska Department of Fish and Game
Project Summary Report
Commercial Fisheries Management and Development
FY 97 Request

Project Number		71000	72000	73000	74000	75000	Total	GF	FED	PR	IA	GFM	F&G	CIP	MONTHS
Fishery Unit 1500 Bristol Bay Herring															
FM-455 *	Togiak Herring Management	14.6	0.9	6.2	4.5	0.0	26.2	26.2	0.0	0.0	0.0	0.0	0.0	0.0	3.0
FM-456 *	Togiak Aerial Surveys	0.0	0.0	28.5	1.5	0.0	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FM-457 *	Catch Sampling, Togiak Herr	14.5	1.5	4.4	1.2	0.0	21.6	21.6	0.0	0.0	0.0	0.0	0.0	0.0	3.0
FM-458 *	Togiak Herring Research	65.6	0.0	0.0	0.0	0.0	65.6	65.6	0.0	0.0	0.0	0.0	0.0	0.0	12.0
IN-459 *	Togiak Herring Extended Sto	5.2	0.0	0.0	0.0	0.0	5.2	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.9
TF-459 *	Togiak Herring Test Fishing	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0
TOTAL	Bristol Bay Herring	99.9	2.4	59.1	7.2	0.0	168.6	148.6	0.0	20.0	0.0	0.0	0.0	0.0	18.9
Fishery Unit 1600 Central Region Groundfish															
FM-465 *	Groundfish Monitoring	0.0	2.7	73.9	1.5	0.0	78.1	78.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TF-466 *	Central Reg Groundfish Asse	12.6	0.0	30.0	0.0	0.0	42.6	0.0	0.0	42.6	0.0	0.0	0.0	0.0	4.0
TOTAL	Central Region Groundfish	12.6	2.7	103.9	1.5	0.0	120.7	78.1	0.0	42.6	0.0	0.0	0.0	0.0	4.0
Fishery Unit 1700 Prince William Sound Shellfish															
FM-470 *	Program Mgmt, PWS Shellfish	68.9	0.5	12.9	1.9	0.0	84.2	84.2	0.0	0.0	0.0	0.0	0.0	0.0	12.0
FM-471 *	Shellfish Monitor & Assessme	22.2	1.8	1.5	4.6	0.0	30.1	30.1	0.0	0.0	0.0	0.0	0.0	0.0	5.0
TF-472 *	PWS Shellfish Stock Assessm	3.4	0.0	10.0	0.0	0.0	13.4	0.0	0.0	13.4	0.0	0.0	0.0	0.0	1.0
TOTAL	Prince William Sound Shellfis	94.4	2.3	24.4	6.5	0.0	127.6	114.3	0.0	13.4	0.0	0.0	0.0	0.0	18.0
Fishery Unit 1800 Lower Cook Inlet Shellfish															
FM-480 *	Program Mgmt, LCI Shellfish/	79.6	2.2	4.0	1.1	0.0	86.9	86.9	0.0	0.0	0.0	0.0	0.0	0.0	17.0
FM-481 *	Shellfish Monitor & Assessme	36.6	0.0	17.3	5.9	0.0	59.8	59.8	0.0	0.0	0.0	0.0	0.0	0.0	7.0
TF-482 *	Crab Pot Buoy Stickers	1.7	0.0	0.0	5.0	0.0	6.7	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.5
TF-483 *	CI Dungeness Crab TF	0.0	0.0	12.0	0.0	0.0	12.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0
TOTAL	Lower Cook Inlet Shellfish	117.9	2.2	33.3	12.0	0.0	165.4	146.7	0.0	18.7	0.0	0.0	0.0	0.0	24.5
Fishery Unit 1900 Central Region Vessels															

Alaska Department of Fish and Game
Project Summary Report
Commercial Fisheries Management and Development
FY 97 Request

Project Number		71000	72000	73000	74000	75000	Total	GF	FED	PR	IA	GFM	F&G	CIP	MONTHS
FM-490 *	Montague Operations	190.6	1.3	3.0	2.6	0.0	197.5	197.5	0.0	0.0	0.0	0.0	0.0	0.0	24.0
FM-491 *	Montague Maintenance	0.0	1.3	19.6	3.0	0.0	23.9	23.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FM-492 *	Pandalus Operations	187.9	1.3	11.5	5.3	0.0	206.0	206.0	0.0	0.0	0.0	0.0	0.0	0.0	24.0
FM-493 *	Pandalus Maintenance	0.0	1.3	16.4	5.3	0.0	23.0	23.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	Central Region Vessels	378.5	5.2	50.5	16.2	0.0	450.4	450.4	0.0	0.0	0.0	0.0	0.0	0.0	48.0
Region 2	**Total**	4,367.47	108.10	1,231.50	227.20	16.80	5,951.1	5,069.62	0.00	881.90	0.00	0.00	0.00	0.00	798.5
Report Totals		4,367.5	108.1	1,231.5	227.2	16.8	5,951.1	5,069.6	0.0	881.9	0.0	0.0	0.0	0.0	798.5

Number of projects on this report 88

Project Number FM-380 **Project Title** Program Management, LCI Area

Region 2 **Ledger Code** 11120380
Fishery unit Lower Cook Inlet Salmon
Component 400110100 Fisheries Management
Location Homer
Program Element Area Management **Legislative District** 5
Funding Level **Region Priority**

Fisheries Affected:

Species Affected:

Project Description

This project provides funding for a professional staff capable of assembling biological data needed to manage Lower Cook Inlet salmon stocks. It also funds support services not directly related to specific projects. These include expenses related to fish ticket collection, editing, and analysis, travel and per diem charges for attending Advisory Committee, Board of Fisheries, and aquaculture meetings, vehicle rental and mileage expenses, office utilities, including telephone charges, and other office expenses. Funding is provided for the Area Biologist, a Clerk Typist II, and for the Assistant Area Biologist.

Project Objectives

To provide a professional staff necessary for local management of Lower Cook Inlet salmon stocks, and to provide administrative, logistic, and other support services for this staff.

Budget Manager 11-1027 Wesley Bucher **Title** LCI Finfish Management Biologist

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	142.70	145.30	145.65	146.66
200 Travel	2.60	2.60	1.50	1.50
300 Contractual	14.20	14.20	14.20	14.20
400 Commodities	5.80	5.80	4.00	4.00
500 Equipment	0.00	0.00	0.00	0.00
Project Totals	165.30	167.90	165.35	166.36
Federal receipts	0.00	0.00	0.00	0.00
General Fund	165.30	167.90	165.40	166.40
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	25.00	25.00	25.00	25.00

Project Number FM-380 Project Title Program Management, LCI Area
Component 400110100 Fisheries Management
Unit Lower Cook Inlet Salmon
Region 2
Ledger Code 11120380

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1027	Fishery Biologist III	Bucher	Wesley	18	K	FR	CYB	12.0	8	4	0	30	0	0	0	$75,793.48
11-1465	Administrative Clerk II	Bunker	Carolyn	8	A	FS	CYB	1.0	0	0	0	0	0	0	0	$2,918.08
11-1782	Fishery Biologist II	Hammarstrom	Lee	16	L	FR	CYB	12.0	9	5	0	0	0	0	0	$67,956.81
TOTALS								25.0	17	9	0	30	0	0	0	$146,668.37

Line	Description	Amount	Comments
72240	Field Travel	1.50	
73300	Communications	4.50	
73420	Motor Pool Charges	6.00	
73500	Adv Print & Bind	.60	
73700	Minor Repairs/Maint	.50	
73850	Machinery & Equip	1.10	
73860	Machinery & Equip	1.50	
74220	Office/Library Supplies	4.00	
TALS		19.70	

Grand Total $166,368.37

Request

Project Number FM-381 **Project Title** LCI Research

Region 2 **Ledger Code** 11120381
Fishery unit Lower Cook Inlet Salmon
Component 400110100 Fisheries Management
Location Homer
Program Element Area Research **Legislative District** 5
Funding Level **Region Priority**

Fisheries Affected:

Species Affected:

Project Description

This project provides funding for the Lower Cook Inlet Research Project Leader (PCN 1258). This position operates herring, shellfish, and groundfish research projects which provide information on run timing, abundance, and stock status. This information is provided to area management biologist to allow them to properly manage these fishery resources for sustained yield.

Project Objectives

1) Determine spawning escapements of herring and salmon, 2) estimate totalabudnance of finfish and shellfish stock, 3) estimate sex, age, and size composition of finfish and shellfish stocks, 4) provide information and assistance to area management staff so that they can manage herring and salmon runs for sustained yield, 5) provide preseason forecasts of herring and salmon abundance, and shellfish and finfish harvests, and 6) evaluate spawning escapemnet requirments for herring and salmon.

Budget Manager 11-1258 William Bechtol **Title** LCI Research Project Leader

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	69.90	73.60	117.90	114.83
200 Travel	2.60	2.60	2.50	2.50
300 Contractual	0.20	0.20	0.50	0.50
400 Commodities	0.10	0.10	0.80	0.80
500 Equipment	0.00	0.00	0.00	0.00
Project Totals	72.80	76.50	121.70	118.63
Federal receipts	0.00	0.00	0.00	0.00
General Fund	72.80	76.50	121.70	118.60
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	12.00	12.00	24.00	24.00

Project Number FM-381 **Project Title** LCI Research
Component 400110100 Fisheries Management
Unit Lower Cook Inlet Salmon
Region 2
Ledger Code 11120381

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1028	Fishery Biologist II	Vacant		16	A	FR	CYB	12.0	0	0	0	0	0	0	0	$51,029.[illegible]
11-1258	Fishery Biologist III	Bechtol	William	18	D	FR	EBA	12.0	0	0	0	0	0	0	0	$63,803.[illegible]
TOTALS								24.0	0	0	0	0	0	0	0	$114,832.7

Line	Description	Amount	Comments
72240	Field Travel	2.50	
73860	Machinery & Equip	.50	
74520	Scientific Supply	.80	
TOTALS		3.80	

Grand Total $118,632.77

Project Number FM-382 Project Title LCI Aerial Surveys

Region 2 Ledger Code 11120382
Fishery unit Lower Cook Inlet Salmon
Component 400110100 Fisheries Management
Location Homer
Program Element Abundance Estimation Legislative District 5
Funding Level Region Priority

Fisheries Affected:

Species Affected:

Project Description

Periodically from mid-June through August, the number of pink, chum, and sockeye salmon in bays, stream mouths, major stream spawning areas, and some lakes are visually estimated by Department staff from single engine fixed-wing aircraft. Estimated escapement counts are needed to provide data for in-season adjustments in the commercial fishery and are used in conjunction with forecast data to evaluate spawner success rates and spawner-recruit relationships. Fishery marker maintenance and replacement are also accomplished through funding supplied by this project.

Project Objectives

To provide post-season escapement estimates and to determine in-season pink, chum, and sockeye escapement trends by stream; to provide the information necessary for rational in-season management of the fishery by emergency order.

Budget Manager 11-1027 Wesley Bucher Title LCI Finfish Management Biologist

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	0.00	0.00	0.00	0.00
200 Travel	0.40	0.40	0.40	0.40
300 Contractual	30.00	30.00	24.00	24.00
400 Commodities	0.00	0.00	0.00	0.00
500 Equipment	0.00	0.00	0.00	0.00
Project Totals	30.40	30.40	24.40	24.40
Federal receipts	0.00	0.00	0.00	0.00
General Fund	30.40	30.40	24.40	24.40
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	0.00	0.00	0.00	0.00

Project Number FM-382 **Project Title** LCI Aerial Surveys
Component 400110100 Fisheries Management
Unit Lower Cook Inlet Salmon
Region 2
Ledger Code 11120382

PCN	Title	Name		R S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1027	Fishery Biologist III	Bucher	Wesley	18 K	FR	CYB	0.0	0	0	0	0	0	0	0	$0.00
TOTALS							0.0	0	0	0	0	0	0	0	$0.00

Line	Description	Amount	Comments
72240	Field Travel	.40	
73660	Machinery & Equip	24.00	
TOTALS		24.40	

Grand Total $24,400.00

Project Number FM-383 **Project Title** Catch Sampling, LCI

Region 2 **Ledger Code** 11120383
Fishery unit Lower Cook Inlet Salmon
Component 400110100 Fisheries Management
Location Homer
Program Element Biological Sampling **Legislative District** 5
Funding Level **Region Priority**

Fisheries Affected:

Species Affected:

Project Description
Age, weight, length, and sex information collected from the commercial salmon catch is needed to develop a data base for each species by stock. This information contributes to understanding of local salmon stock structure and is necessary for developing a rational management plan for the Lower Cook Inlet salmon resource.

Project Objectives
To collect age, weight, length, and sex information from the Lower Cook Inlet commercial salmon catch.

Budget Manager 11-1258 William Bechtol **Title** LCI Research Project Leader

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	24.80	26.50	26.29	26.29
200 Travel	3.70	3.70	5.00	5.00
300 Contractual	1.20	1.20	1.20	1.20
400 Commodities	0.30	0.30	0.60	0.60
500 Equipment	0.00	0.00	0.80	0.80
Project Totals	30.00	31.70	33.89	33.89
Federal receipts	0.00	0.00	0.00	0.00
General Fund	30.00	31.70	33.89	33.89
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	6.50	6.50	6.50	6.50

Project Number FM-383 **Project Title** Catch Sampling, LCI
Component 400110100 Fisheries Management
Unit Lower Cook Inlet Salmon
Region 2
Ledger Code 11120383

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1369	F&W Technician II	McNeill	Trish	9	F	FS	CYB	2.5	19	7	0	80	0	0	0	$11,757 2
11-1516	F&W Technician II	Sigurdsson	Sigfus	9	E	FS	CYB	2.0	0	0	0	0	0	0	0	$6,822.9
11-1590	F&W Technician III	Demers	Gregory	11	F	FS	CYB	2.0	0	0	0	0	0	0	0	$7,719.1
TOTALS								6.5	19	7	0	80	0	0	0	$26,299.2

Line	Description	Amount	Comments
72240	Field Travel	5.00	
73860	Machinery & Equip	1.20	
74480	Household/Institutional	.60	
75870	Lab/Scientific Equipment	.80	
TOTALS		7.60	

Grand Total $33,899.29

Project Number FM-384 Project Title Escapement Surveys, Ground

Region 2 Ledger Code 11120384
Fishery unit Lower Cook Inlet Salmon
Component 400110100 Fisheries Management
Location Homer
Program Element Abundance Estimation Legislative District 5
Funding Level Region Priority

Fisheries Affected:

Species Affected:

Project Description
Crews survey 18 major pink and chum salmon spawning streams to estimate escapement levels and species composition, and to provide data on age, weight, length, and sex by stock. Foot and boat surveys are done in most cases as thick vegetative cover prevents accurate aerial surveying.

Project Objectives
To estimate escapement levels by species in 18 major pink and chum salmon spawning streams.

Budget Manager 11-1027 Wesley Bucher Title LCI Finfish Management Biologist

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	16.40	17.50	17.29	17.29
200 Travel	0.00	0.00	0.00	0.00
300 Contractual	9.20	9.20	11.20	11.20
400 Commodities	1.40	1.40	0.90	0.90
500 Equipment	0.00	0.00	0.00	0.00
Project Totals	27.00	28.10	29.39	29.39
Federal receipts	0.00	0.00	0.00	0.00
General Fund	27.00	28.10	29.39	29.39
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	4.00	4.00	4.00	4.00

Project Number FM-384 **Project Title** Escapement Surveys, Ground
Component 400110100 Fisheries Management
Unit Lower Cook Inlet Salmon
Region 2
Ledger Code 11120384

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1516	F&W Technician II	Sigurdsson	Sigfus	9	E	FS	CYB	2.0	0	0	50	0	0	0	0	$8,102.1
11-1590	F&W Technician III	Demers	Gregory	11	F	FS	CYB	2.0	0	0	50	0	0	0	0	$9,189.8
TOTALS								4.0	0	0	100	0	0	0	0	$17,291.9

Line	Description	Amount	Comments
73700	Minor Repairs/Maint	1.20	
73800	Machinery & Equip	10.00	
74520	Scientific Supply	.20	
74600	Other Operation Supplies	.70	
TOTALS		12.10	

Grand Total $29,391.9

Project Number FM-385 Project Title LCI Bio/Rehab

Region 2 Ledger Code 11120385
Fishery unit Lower Cook Inlet Salmon
Component 400110100 Fisheries Management
Location Homer
Program Element Legislative District 7-9
Funding Level Region Priority

Fisheries Affected:

Species Affected:

Project Description

An area office is maintained in Homer where the biologist serves as the main contact with private non profit aquaculture organizations, sport fishermen and the public for the CFMD Division involvement in enhancement projects in the management area. Specific projects include sockeye fry lake stocking evaluation; Halibut Cove Lagoon and Seldovia Bay chinook salmon return evaluations; developing shore-based sport fishing opportunities in the Homer Spit/Mud Bay area; and the English Bay sockeye salmon rehabilitation project. Enhancement projects in the area benefit commercial, sport, personal use and subsistence users. The component of this project supported by DJ/WB funding is contained in SP-076.

Project Objectives

Plan, develop, evaluate and monitor enhancement projects in the Lower Cook Inlet management area.

Budget Manager 11-5071 Nick Dudick Title Area Resource Development Biolo

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	147.90	78.40	76.52	76.52
200 Travel	4.10	4.10	4.10	4.10
300 Contractual	33.40	33.10	28.10	28.10
400 Commodities	11.00	11.00	11.00	11.00
500 Equipment	4.00	4.00	4.00	4.00
Project Totals	200.40	130.60	123.72	123.72
Federal receipts	67.80	0.00	0.00	0.00
General Fund	106.40	112.10	123.72	123.72
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	22.60	18.50	0.00	0.00
Fish and Game Fund	3.60	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	33.70	13.00	14.50	14.50

Project Number FM-385 **Project Title** LCI Bio/Rehab
Component 400110100 Fisheries Management
Unit Lower Cook Inlet Salmon
Region 2
Ledger Code 11120385

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-5071	Fishery Biologist III	Dudiak	Nicholas	18	M	FR	CYB	6.0	0	0	0	0	0	0	0	$38,408.04
11-5243	F&W Technician IV	Dickson	Mark	13	F	FS	CYB	4.0	0	0	18	0	0	0	0	$18,193.73
11-5268	Fishery Biologist I	Balland	David	14	K	FS	CYB	2.0	0	0	18	0	0	0	0	$10,692.81
11-5338	F&W Technician II	Ryan	Josephine	9	A	FS	CYB	.5	0	0	18	0	0	0	0	$1,942.65
11-5362	F&W Technician III	Cowan	Philip	11	A	FS	CYB	2.0	0	0	18	0	0	0	0	$7,283.38
TOTALS								14.5	0	0	72	0	0	0	0	$76,520.61

Line	Description	Amount	Comments
72240	Field Travel	2.10	
72500	Per Diem/Other Costs	2.00	
73100	Professional Srvcs	4.00	
73300	Communications	5.00	
73400	Transportation	5.00	
73500	Adv Print & Bind	.50	
73700	Minor Repairs/Maint	1.40	
73800	Rentals/Leases	7.00	
73900	Other Expend/Srvcs	5.20	
30	Office/Library Supplies	1.60	
30	Household/Institutional	1.20	
74520	Scientific Supply	1.20	
74560	DP Supplies	1.00	
74600	Other Operation Supplies	5.50	
74650	Repair/Maint/Supply	.50	
75940	Special Equipment	4.00	
TOTALS		47.20	

Grand Total $123,720.61

Project Number FM-445 **Project Title** Fishery Monitoring UCI Herring

Region 2 **Ledger Code** 11120445
Fishery unit Cook Inlet Herring
Component 400110100 Fisheries Management
Location Soldotna
Program Element Area Management **Legislative District** 5
Funding Level **Region Priority**

Fisheries Affected:

Species Affected:

Project Description
This project collects catch and fishing effort statistics during the fishery for herring in Upper Cook Inlet. Statistics from this project are compared against harvest policies and estimates of herring biomass to ensure that harvest goals are not surpassed. Most information for this project is obtained through fish tickets. This budget provides for aerial surveys and biological sampling of the catch.

Project Objectives
To collect fishery statistics for herring in Upper Cook Inlet used for in-season management.

Budget Manager 11-1022 Paul Ruesch **Title** UCI Area Management Biologist

Budget detail	Prior Year Allocations FY 97	FY 95	FY 96	Request Summary 97
100 Personal Services	23.20	24.50	0.00	0.00
200 Travel	0.00	0.00	0.00	0.80
300 Contractual	0.10	0.10	0.00	2.00
400 Commodities	0.60	0.60	0.00	0.20
500 Equipment	0.00	0.00	0.00	0.00
Project Totals	23.90	25.20	0.00	3.00
Federal receipts	0.00	0.00	0.00	0.00
General Fund	23.90	25.20	0.00	3.00
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	5.00	5.00	0.00	0.00

Project Number FM-445 **Project Title** Fishery Monitoring UCI Herring
Component 400110100 Fisheries Management
Unit Cook Inlet Herring
Region 2
Ledger Code 11120445

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1022	Fishery Biologist III	Ruesch	Paul	18	M	FR	DGD	0.0	0	0	0	0	0	0	0	$0.0
TOTALS								0.0	0	0	0	0	0	0	0	$0.0

Line	Description	Amount	Comments
72240	Field Travel	.80	
73420	Motor Pool Charges	1.00	
73660	Machinery & Equip	1.00	
74480	Household/Institutional	.20	
TOTALS		3.00	

Grand Total $3,000.0

Request

Project Number FM-446 Project Title Catch Sampling, LCI

Region 2 Ledger Code 11120446
Fishery unit Cook Inlet Herring
Component 400110100 Fisheries Management
Location Homer
Program Element Biological Sampling Legislative District 5
Funding Level Region Priority

Fisheries Affected:

Species Affected:

Project Description
This project produces estimates of the age, size, and sex composition of the herring catch in Cook Inlet. Herring from fisheries are sampled periodically to obtain the estimates that are later used to assess the stock productivity of herring for analysis of harvest regulations and determination of proper harvest levels.

Project Objectives
To estimate the age, size, and sex composition of the herring catch in Lower Cook Inlet.

Budget Manager 11-1258 William Bechtol Title LCI Research Project Leader

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	10.80	11.30	13.99	13.99
200 Travel	1.70	1.70	2.00	2.00
300 Contractual	0.00	0.00	0.00	0.00
400 Commodities	4.20	4.20	1.00	1.00
500 Equipment	0.00	0.00	0.00	0.00
Project Totals	16.70	17.20	16.99	16.99
Federal receipts	0.00	0.00	0.00	0.00
General Fund	16.70	17.20	16.99	16.99
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	0.00	0.00	0.00	0.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	3.00	3.00	3.10	3.10

Project Number FM-446 Project Title Catch Sampling, LCI
Component 400110100 Fisheries Management
Unit Cook Inlet Herring
Region 2
Ledger Code 11120446

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1369	F&W Technician II	McNeill	Trish	9	F	FS	CYB	1.0	0	0	40	0	0	0	0	$4,501.10
11-1505	F&W Technician II	Browning	Elizabeth	9	B	FS	DGD	.1	0	0	0	0	0	0	0	$315.24
11-1516	F&W Technician II	Sigurdsson	Sigfus	9	E	FS	CYB	1.0	0	0	40	0	0	0	0	$4,434.82
11-1590	F&W Technician III	Demers	Gregory	11	F	FS	CYB	1.0	0	0	30	0	0	0	0	$4,741.99
TOTALS								3.1	0	0	110	0	0	0	0	$13,993.15

Line	Description	Amount	Comments
72240	Field Travel	2.00	
74480	Household/Institutional	1.00	
TOTALS		3.00	

Grand Total $16,993.15

Request

Project Number TF-447 **Project Title** LCI Herring Test Fish

Region	2	**Ledger Code**	11127447
Fishery unit	Cook Inlet Herring		
Component	400110100 Fisheries Management		
Location	Homer		
Program Element	Biological Sampling	**Legislative District**	5
Funding Level		**Region Priority**	

Fisheries Affected:

Species Affected:

Project Description

This project provides for collection of biological samples and calibration of aerial survey estimates of herring biomass in order to obtain more precise estimates of abundance and gather biological data on portions of the stock which are not harvested in the commercial fishery.

Project Objectives

To estimate abundance, age, sex, and size composition of herring in Lower Cook Inlet.

Budget Manager 11-1027 Wesley Bucher **Title** LCI Finfish Management Biologist

Budget detail	Prior Year Allocations FY 94	FY 95	FY 96	Request Summary 97
100 Personal Services	0.00	0.00	0.00	0.00
200 Travel	0.00	0.00	0.00	0.00
300 Contractual	10.00	10.00	15.00	30.00
400 Commodities	0.00	0.00	0.00	0.00
500 Equipment	0.00	0.00	0.00	0.00
Project Totals	10.00	10.00	15.00	30.00
Federal receipts	0.00	0.00	0.00	0.00
General Fund	0.00	0.00	0.00	0.00
Interagency Receipts	0.00	0.00	0.00	0.00
Program receipts	10.00	10.00	15.00	30.00
General Fund Match	0.00	0.00	0.00	0.00
Fish and Game Fund	0.00	0.00	0.00	0.00
CIP Funds	0.00	0.00	0.00	0.00
Staff Months	0.00	0.00	0.00	0.00

Project Number TF-447 **Project Title** LCI Herring Test Fish
Component 400110100 Fisheries Management
Unit Cook Inlet Herring
Region 2
Ledger Code 11127447

PCN	Title	Name		R	S	S	LOC	PM	SWD	RDO	OT	HAZ	GR	SW	SB	TOTAL
11-1027	Fishery Biologist III	Bucher	Wesley	18	K	FR	CYB	0.0	0	0	0	0	0	0	0	$0.0
TOTALS								0.0	0	0	0	0	0	0	0	$0

Line	Description	Amount	Comments
73360	Machinery & Equip	15.00	Test Fish Charters
73864	Aircharter	15.00	Aerial Survey
TOTALS		30.00	

Grand Total $30.00

1996 PRELIMINARY LCI SALMON HARVEST FORECAST

	Enhanced	Natural[a]	Total
CHINOOK	[b]	1,300	1,300
SOCKEYE	251,500[c]	87,500	339,000
COHO	[b]	15,200	15,200
PINK	1,415,000[c]	258,100	1,673,100
CHUM	-----	98,400	98,400
Total	1,666,500	460,500	2,127,000

[a] Forecasts for naturally produced chinook, sockeye, coho, and chum salmon are simply average commercial harvests during the years 1980 - 1995.

[b] Returns of chinook and coho salmon as a result of enhancement projects in Lower Cook Inlet are indtended for recreational fisheries but are expected to contribute to commercial catches.

[c] Includes common property plus cost recovery harvests.

The preceding numbers include the following breakdown of natural and enhanced harvest components:

ENHANCED RUNS

SOCKEYE SALMON		PINK SALMON	
Chenik Lake	0[a]	Tutka Lagoon Hatchery	1,415,000
Kirschner Lake	30,000	Tutka Creek Escapement	10,000
Leisure Lake	65,000	Broodstock[b]	150,000
Hazel Lake	55,000		
Paint River Lakes	0[a]	TOTAL	1,575,000
Bruin Lake	15,000		
Ursus Lake	3,000		
Bear Lake	76,000		
English Bay Lakes	7,500		
TOTAL	251,500		

NATURAL RUNS

SOCKEYE SALMON[c]		PINK SALMON	
Southern District[d]	34,900	Southern District	16,400
Outer District	23,800	Outer District	181,100
Eastern District	10,500	Eastern District	60,600
Kamishak Bay District	18,300	Kamishak Bay District	0
TOTAL	87,500	TOTAL	258,100

[a] Low level returns are not expected to produce any harvest.

[b] Broodstock totals are not included in the harvest forecast.

[c] Numbers for natural sockeye harvests are not forecasts but simply represent 1980-95 average commercial catches.

[d] Incidental harvest of fish not originating from the Southern District.

The following table summarizes the meeting held last spring to designate duties between regional (R,r) and area (A,a) resource biologists. A capital letter denotes major involvement in a project.

PERMITTING		PLANNING	
R,a	BMP's	R,A	RPT
A,r	AMP's	A,r	AMP
R,a	PAR's	A,R	PPC
R	FTP's	R	PNP Regulations
R	FRP's	R	PNP Liaison
R	Hatchery Applications	R,A	BOF
R	MFA's		
R	Hatchery Contracts		
EVALUATION		OVERSIGHT/MONITORING	
A	Remote Release Evaluation	R	AMP vs. Annual Report Performance
A	Test Fish Projects	HQ,R	Hatchery Database
A	CWT/Otolith Programs	A	Brood, Egg & Fry Inventory
A,r	Cooperative Agreements	A,r	Hatchery Visits
R	Statewide Review Committee	A,r	CWT/Otolith Programs
a	Limnology	a	Pathology
A	Genetic Sampling	a	Genetics
R	Project Evaluation - QC	A	Inseason Data & Management Support
		R	Hatchery Performance Review
OTHER			
A	Lake Fertilization		
A	Fish Passes		
A	Spawning Channels		
A,r	Extension Service and Support		
R,a	Mariculture		

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPARTMENT OF FISH AND GAME

3298 DOUGLAS STREET
HOMER, ALASKA 99603-7942

March 13, 1995

Joe Brunner
Board of Directors
Lower Cook Inlet Fisheries
Development Corporation
P.O. Box 4311
Homer, AK 99603

Dear Joe,

I was very interested by your recent letter to find that you and your group are in the process of forming a new PNP organization. The group's name, "Lower Cook Inlet Fisheries Development Corporation" was well chosen. The potential ability for your new group to develop and enhance our area fisheries, supplemental to the work already being conducted by the Cook Inlet Aquaculture Association and Cook Inlet Seiners Association, appears to be very exciting.

Per your recent letter, attached please find a draft proposed plan for the Leisure Lake Sockeye Rearing Project. This was written basically in accordance with the outline you provided.

I look forward to your meeting on March 15, during which we can further discuss this potential salmon enhancement project. It has been a pleasure working with you and other CISA members and I look forward to similar rewarding experiences with the Lower Cook Inlet Fisheries Development Corporation.

Sincerely,

Nick Dudiak

Nick Dudiak
LCI Resource Development Biologist

PROPOSED PROJECT PLAN **Draft 3/13/95**

LEISURE LAKE SOCKEYE SALMON REARING PROJECT

PROJECT DESCRIPTION:

Background Information

The Lower Cook Inlet (LCI) Sockeye Salmon Enhancement program has been in operation since 1980. This program involves the stocking of hatchery sockeye salmon fry into selected LCI lakes in order to provide applied research data as well primarily enhance area commercial salmon fishing opportunities. The contribution rate of these enhanced sockeye salmon to the total LCI commercial harvest of that species has been significant at 50% to over 80% in recent years.

Although the Leisure Lake project was the initial site selected for this sockeye enhancement program, smolt and subsequent adult salmon production have been significant. This project annually involves the aerial stocking of 1.5 to 2.0 million hatchery sockeye salmon fry into the 260 surface acre lake. Additionally, over 30,000 lbs of liquid fertilizer are applied to the surface of the lake to provide the supplemental nutrient load required to increase the overall productivity of the system.

Project Scope and Goals

Additional enhancement work at Leisure Lake may be feasible in the form of in-lake, long term rearing of sockeye salmon fry to pre-smolt stage. Preliminary results from a similar project at English Bay Lakes have been encouraging.

This proposed plan identifies and hinges on the continued annual stocking of sockeye fry directly into Leisure Lake as well as continued lake fertilization. However, additional work would involve the long term pen rearing in Leisure Lake of 500,000 sockeye salmon fry from approximately 0.22g in size to pre-smolt at 18g size. This rearing period would encompass the spring to fall seasons (late-May to late-October).

The concept of releasing the pre-smolt into Leisure Lake at the end of the growing season and start of the dormant, cold winter period, would preclude significant feeding competition of these larger fish with the previously direct released fry. Ultimately, all released pre-smolt and most of the direct released fry would outmigrate as age 1.0 smolt the following spring. This would allow clearing of the lake system for the next direct release and pen rearing program, consequently allowing for maximum production.

Subsequent returns should provide not only the continued adult sockeye production from the direct fry release and fertilization of Leisure Lake, but also significant supplemental adult production

from anticipated higher ocean survival rates from the expected larger pen reared smolts. This would allow for the goals of a higher cost recovery rate as well as better common property fishery opportunities.

Project Details

The project details are listed by individual tasks to allow a more comprehensive review.

1. Approximately 500,000 sockeye fry will be obtained through contract from CISA's Crooked Creek Hatchery.

2. These fry will be transported by truck to Homer and transported by Otter floatplane to Leisure Lake.

3. All 500,000 fry will be released in up to 10 net pens, securely anchored in protected waters. The net pens would be pre-fabricated in Homer prior to transport on-site.

4. Fry will be fed a minimum of 5% body weight/day or on demand by a 2 person crew, assigned to the remote site project for the entire rearing period of late-May to late-October. Adjustments in net pen size, feeding rates and physical parameter measurements will be conducted throughout the project.

5. Biomass estimates will be determined every 14 days by subsampling fry in each pen. Fry mortalities will be monitored and recorded daily. The pen liners will be washed by pressure sprayer on an as needed basis.

6. Careful examination of fry will be conducted daily to monitor for potential pathogen outbreaks. Prior to the fall release into the lake system, samples will be submitted to the ADF&G Pathology Section for analyses.

7. Approximately 20,000 pre-smolt will be adipose fin clipped and coded wire tagged in September, to allow for subsequent evaluation after release both as smolt and returning adults.

8. The following spring, smolt will be sampled during the emigration from the Leisure Lake system. Total enumeration will be conducted as well as subsampling for AWL and adipose fin clip data to determine lake survival.

9. Several years later, returning adult sockeye will be sampled for marked fin recovery in the commercial and personal use fisheries of China Poot Bay to determine ocean survival rates.

10. Resultant project data and analyses will help determine the feasibility of conducting lake rearing sockeye fry projects.

Project Cost Estimates

1. Contract w/ CISA for 500,000 sockeye fry	$?
2. Fry transport by Otter floatplane @ $480/hrx2hr	960
3. Lake Rearing:	
A. Pen frame materials & construction (10)	10,000
B. Net pen liners @ (included above)	
C. Anchor materials @	2,000
D. 2 Fish Technicians @ $2,500/mo x 10mm	25,000
E. 1 Mark Technician @ $3,000/mo x 0.5mm	1,500
F. Human Food @ $12/day x 2men x 150 days	3,600
G. Fish Food @ 14,500 lbs x $.90/lb	13,050
H. Misc. sampling equipt. @	1,000
I. Camping equipt. @	3,000
J. Air Logistics: Otter @ $480/hr x 10hrs	4,800
Cessna @ $250/hr x 10hrs	2,500
Subtotal	$67,410
4. Smolt Sampling:	
A. 2 Fish Technicians @ $2,500/mo x 4mm	$10,000
B. Human Food @ $12/day x 2men x 45 days	1,080
C. Fyke net materials @	500
D. Misc. sampling equipt. @	500
E. Camping equipt. @	500
F. Air Logistics: Otter @ $480/hr x 1hr	480
Cessna @ $250/hr x 4hr	1,000
Subtotal	$14,060
5. Adult Sampling:	
A. 1 Fish Technican @ $2,500/mo x 1mm	$ 2,500
B. Gas for skiff @	200
6. Project Management, Administration:	?

Project Survival and Benefit Assumptions:

Emergent Fry to Pre-smolt = 80%
Pre-smolt to Smolt = 60%
Smolt to Adult = 10% to 20%
Adult avg. wt. = 4.5 lbs
Price = $1.50/lb

Examples of Survival and Benefit Calculations for:
500,000 Fry Increment:

500,000 Fry x 80% = 400,000 Pre-smolt
400,000 Pre-smolt x 60% = 240,000 Smolt
240,000 Smolt x 10% to 20% = 24,000 to 48,000 Adults
Avg Wt @ 4.5 lbs x $1.50 Price/lb = $6.75 Value/Adult
24,000 Adults x $6.75 = $162,000
48,000 Adults x $6.75 = $324,000

Note: To determine potential benefit of rearing 1,000,000 fry, multiply all factors 2x.

Risks Summary:

Risk assessment or management of this specific project does not appear to be significant. Leisure Lake has been stocked nearly every year since 1976, using Tustumena sockeye broodstock. In that time period, no obvious disease or unexpected mortality problems with sockeye fry or smolt were observed. Genetic risks have also been minimal with little to no observable straying.

In terms of the risks involved with the potential for project success, these also appear to be minimal. Adult returns to Leisure Lake from the sockeye fry release projects have been significant, especially when smolt were relatively large at emigration. It seems reasonable to assume that the larger smolt expected from the lake rearing project will have higher survival rates. Risks associated with growth rates or disease while conducting the rearing program will be minimized by conducting work in a careful and methodical manner.

PROPOSED PROJECT PLAN Draft 11/24/95

PAINT RIVER LAKES SOCKEYE SMOLT STUDY

PROJECT DESCRIPTION:

Background Information

The Paint River system contains extensive areas of potential salmonid spawning and rearing habitat for significant numbers of pink, chum and sockeye salmon. Salmon did not occur naturally in this system because of an impassable waterfall at tide line.

The Cook Inlet Aquaculture Association (CIAA) received over $2.5 million in State and Federal grant funds for construction of a major fishpass on the Paint River. The fishpass construction was completed in 1991. However, budget limitations have precluded any broodstock development for pink and chum salmon. Extensive remote site salmon egg-takes, hatchery or instream incubation and/or subsequent fry transport and releases will be required over a period of 5-6 years to develop future self sustaining salmon runs to the Paint River system.

Planning estimates of future annual commercial harvest of pink, chum and sockeye salmon from the Paint River system alone could exceed the current 20 year average annual catch for the entire Lower Cook Inlet (LCI) area. The potential to expand the current LCI harvest by over two-fold would provide significant benefit to the LCI economy, which is currently impacted by much lower than average salmon runs with resultant lower economic values.

Sockeye salmon is the only species that has been stocked on a production scale within the Paint River system. The Paint River Lakes have been stocked with hatchery sockeye fry on a near annual basis since 1986. However, extremely low returns at 200 - 1,000 fish have been realized. Currently, there are no definite explanations for these poor survivals from the Paint River Lake system. Other nearby lakes in the Kamishak District, stocked with the same size fry at the same basic time period, have produced fair to excellent returns of adult sockeye salmon.

Possible reasons for the poor sockeye survivals from the Paint River Lake system could include: heavy predation by lake trout and grayling; forage competition with juvenile round whitefish; poor smolt growth due to relative low productivity of the system; poor overfalls survival.

Unfortunately, no evaluation work has been conducted to attempt to answer these potentials for poor sockeye production from the Paint River system. This proposal seeks to develop a program to at least determine the size of smolt produced and document the predator/prey relationships. The resultant information will be used to determine the optimum stocking density for good smolt size production and allow for inherent predation activity. Ultimate result would be

significant numbers of sockeye returning to the mouth of the Paint River for commercial harvest.

Additionally, a major capital investment in the construction of the Paint River fishpass has been made. With investment in broodstock development for pink and chum salmon, this project will be well on it's way to becoming the largest single salmon producing system in the entire LCI area and subsequently, a major source for future economic development.

Project Scope

This proposed plan identifies and hinges on the continued annual stocking of sockeye fry into the Paint River Lakes. Subsequent smolt production would be evaluated both qualitatively and semi-quantitatively onsite. Additionally, effects of predator/prey relationships will also be studied.

Project Details

The proposed project details are listed by individual tasks to allow a more comprehensive review.

1. Upper and Lower Paint River Lakes stocked with 337,000 and 250,000 sockeye fry, respectively in spring, 1995.

2. Outmigrating sockeye smolt from the previous year's stocking will be sampled during late-May through late-June, 1996. A two person crew and all associated camping and scientific gear will mobilize to the site by Otter floatplane. A large fyke net will be fished in the outlet stream of the Upper Paint Lake (the Lower Lake outlet would be difficult to sample). Total enumeration of smolt will be conducted, if possible. Appropriate subsampling for smolt age, weight and length (AWL) data will also be conducted.

3. Predator/prey relationships will be investigated in both lake systems to detemine to what extent sockeye fry are preyed upon. Piscivorous species such as lake trout and grayling will be sampled by various methods to determine food selection and quantity.

4. Monthly limnology sampling will be conducted on both Paint River Lake systems to monitor any changes in productivity parameters as related to possible effects on sockeye fry growth.

Project Cost Estimates

1.	Continue to contract w/ CIAA for up to 600,000 sockeye fry production and transport	$?
2.	Smolt Study: (1 month onsite).	
	A. 2 Fish Techs @ 2,600/mo x 3mm	7,800
	B. Air Logistics: Otter @ $480/hr x 6hrs	2,880
	Beaver @ $310/hr x 4hrs	1,240
	C. Food: @ $12/day x 2men x 30days	720
	(All other field and scientific supplies provided by ADF&G)	
	TOTAL	$12,640

EXXON VALDEZ TRUSTEE COUNCIL
FY/97 DETAILED PROJECT DESCRIPTION

DRAFT

Project Title: Delight and Desire Lakes Enrichment and Sockeye Salmon Enhancement Project.

Project Number:

Restoration Category: General Restoration

Proposer: Lower Cook Inlet Seiners Association.

Lead Trustee Agency: Alaska Department of Fish and Game, Commercial Fisheries Management and Development Division.

Cooperating Agency: Regional Limnology Laboratory, Alaska Department of Fish and Game, Soldotna.

Duration: 6 Years

Cost FY/97: $93,784 Phase one.

Cost FY/98: $87,934 Second Year if necessary.

Cost FY/99: Phase two of the project would depend on the results of phase one (research & pre-fertilization study) and budget projections will be determined by the end of FY/98.

Cost FY/00:

Cost FY/01:

Cost FY/02:

Geographical Location: Delight and Desire Lakes are located on the Outer Gulf Coast of The Kenai Peninsula on The Eastern Shore of McCarty Fiord of East Nuka Bay.

Injured Resource/Service: Wild stock Sockeye Salmon and Commercial Fishing.

Abstract: The proposed project would increase the currently depressed wildstock sockeye salmon of Delight and Desire Lakes through lake fertilization and enhancement. Application of liquid fertilizer would increase the forage base for rearing sockeye salmon fry through nutrient

enrichment. The expected result would be larger, younger and more numerous sockeye smolt with a corresponding increase in marine survival rates.

INTRODUCTION: The outer district of the Kenai Peninsula has many significant wild salmon stocks important to the region's wildstock salmon ecology as well as the areas local commercial salmon fishery. The Delight and Desire Lake wildstock sockeye salmon are the only sockeye salmon found in the outer district that are of commercial importance. Delight and Desire Lakes are located in the East Arm of Nuka Bay (McCarty Fiord) approximately 77.0 km southwest of Seward and 70 km. east of Homer (Figure). Both lakes are termed oligotrophic (a term describing lakes with low nutrient levels and are often poor in nitrogen, phosphorus and calcium). Delight lake is approximately 272 hectares in size with a maximum depth of 40 meters and Desire Lake is 162.5 hectares and the depth is unknown. Both lakes have outlet streams that empty into McCarty Fiord.

It has been documented that the *Exxon Valdez* Oil Spill caused heavy oiling to the beaches and near shore waters at the entrance to McCarty Fiord. Light oiling has been documented near the outlet streams of Delight and Desire Lakes (ADNR, 1989). sockeye salmon and lost fishing time has been identified as injured resources and services respectively by the *Exxon Valdez* Trustee Council (EVTC).

The Delight and Desire Lake sockeye salmon stocks have historically supported a much higher annual catch in the East Nuka Subdistrict. Reduced fishing time may be demonstrated through the commercial sockeye catches of the East Nuka Bay Subdistrict. The commercial sockeye catch has averaged only 5,750 sockeyes annually since 1991 (the first year adult sockeye returned from the 1989 smolt outmigration). Prior to 1989, the average annual catch was 23,100 fish, 1971 through 1990, (Figure). In addition, Delight Lake has remained closed to commercial fishing since 1992 in an attempt to achieve the minimum escapement goal of 10,000 fish (ADF&G, 1994). In addition, the FY/96 work plan prepared by the E.V.T.C. lists sockeye salmon as a biological resource that is not recovering.

Recent Federal land transfers have resulted in Delight and Desire Lakes being transferred to the Port Graham Association. Pat Norman, president of the Port Graham Association, has advocated and supported this project through the Lower Cook Inlet Seiners Association (Appendix A).

NEED FOR THE PROJECT:

A. Statement of the Problem

The targeted resource is the wildstock sockeye salmon of Delight and Desire Lakes. Catches of sockeye salmon in the East Nuka Subdistrict have averaged only 5,750 fish since the first return of adult salmon after the 1989 oil spill. This compares to an average annual catch of 23,100 fish for the years 1971 through 1990 (Figure). The Aialik Bay sockeye catch has also experienced

similar results since 1991 (Figure). Aialik Bay is also located on the outer coast of the Kenai Peninsula approximately 20 km southwest of Seward and 32 km northeast of Delight and Desire Lakes (Figure). The beaches and near shore waters to the entrance of Aialik Bay, including the narrow passages and capes, were heavily oiled during the *Exxon Valdez* Oil Spill (ADNR, 1989). For the Aialik Subdistrict, during the years 1979 through 1990, the average annual catch is estimated to be 12,900 sockeyes, while the average catch since 1991 (the first year adult sockeye returned from the 1989 smolt outmigration) averaged only 1,600 sockeyes (Figure).

The benefits realized from the lake enrichment project would help restore the wild stocks of sockeye salmon in Delight and Desire Lakes as well as increase, to former levels, the commercial catch of East Nuka Bay.

This proposal is constructed in two phases. Phase one will last one year (two years if regional limnology considers it necessary) and complete a comprehensive limnological inventory and survey of Delight and Desire Lakes. Phase two would actually apply fertilizer for nutrient enrichment and would last an additional three years. The proposers realize that if phase one reveals that one or both of the lakes would benefit from nutrient enrichment, an additional financial source would be required to finance the annual cost of fertilization outside the time frame of this proposal. Currently, fishery enhancement projects in Lower Cook Inlet are financed by revenue generated by selling fish caught in special harvest areas. These areas, set up by the regional aquaculture associations and the local commercial fishing fleet, are areas where fishermen can sell the fish they catch and use the revenue to fund annual fishery programs. By expanding the scope and revenue goal of one or more of these areas, additional revenue could be used to fund the annual fertilization costs.

B. Rationale

No known investigations to link oil spill injury to salmon survival (fry or adult) has occurred in the East Nuka Bay area. It is often difficult to correlate oil spill damage to depressed salmon stocks. Mark Willette (ADF&G 1994) has found that pink salmon fry growth rates were reduced when exposed to oil contamination for up to three years after the *Exxon Valdez* Oil Spill in the marine environment in Prince William Sound.

Although no definitive and absolute link to damage from the oil spill can be developed for the Delight and Desire Lakes sockeye salmon stocks, this restoration project has potential to accelerate the recovery of these currently depressed stocks. Lake enrichment would provide an increased forage base for rearing sockeye fry and could be expected to produce larger and more numerous sockeye smolt with increased marine survival rates.

For FY97, phase one of the restoration project will include research into the limnological characteristics of the lakes to determine feasibility to the proposed restoration plan. ADF&G guidelines mandate that a 1-2 year pre-fertilization study be conducted before commencing with any nutrient enrichment program. Objectives would include a comprehensive survey of physical and chemical characteristics, plankton abundance, and biological parameters of Delight and Desire

Lakes. In addition, the spring and summer outmigration of sockeye salmon smolts would be monitored to assess size and age at emigration. This survey would be completed during the 1-2 year research and feasibility phase of the project and used to determine suitability of the lakes to nutrient enrichment.

C. Summary of Major Hypothesis and Objectives

Phase one of the project (research and monitoring) would determine the feasibility and the potential that Delight and Desire Lakes have to lake enrichment and the capability that the restoration action has to accelerate recovery of the depressed stocks.
The eventual objective of this project (**phase two**) is to produce larger, younger and more numerous smolts which will support and sustain the wild sockeye salmon stocks of the East Nuka Bay Subdistrict.

COMMUNITY INVOLVEMENT:

This project concept has been reviewed at the Lower Cook Inlet Seiners Association meeting in December, 1995. Support for the project was unanimous as well as general support approved by the Villages of Port Graham and Nanwalek. Although no other public informational meetings on this project have been held at this time, it is anticipated that this sockeye salmon restoration project will create support from the general public in Lower Cook Inlet.

FY/97 BUDGET:

The following budget figures include comprehensive pre-fertilization analysis, with smolt evaluation camps, at both Delight and Desire Lakes.

Personnel	$59,975
Travel	$750.00
Contractual	$20,020
Commodities	$8,558
Equipment	$1,750
Subtotal	$91,053
General Administration	**$2,731**
Total	$93,784

PROJECT DESIGN:

A. Objectives

Objectives of **Phase one** would include a thorough feasibility study of both lakes to determine suitability of one or both lakes for a nutrient enrichment program. The study would provide detailed assessments of the physical, chemical and biological aspects of the lakes so that lake enrichment criteria can be applied to determine if the lakes would benefit from the proposed fertilization project. **Phase one** of the project would follow the guidelines established by the Alaska Department of Fish and Game and the readers are referred to "Policy and Guidelines For Lake Fertilization" (ADF&G, 1979).

Limnological classifications have been developed by Koenings and Burkett (ADF&G, 1989) that classify lakes as recruitment-limited or rearing-limited with respect to which enhancement strategy would be appropriate. Based on their work and the limited work done on Delight and Desire Lakes by ADF&G in the early 1980's, the two lakes appear to be classified as rearing-limited. For example, the escapement levels and spawning areas for both lakes do not appear to be the limiting factor restricting adult production at this time (ADF&G, 1994). In fact, juvenile sockeye production is not an exclusive function of spawner density in sockeye salmon nursery lakes but also includes a high quality rearing environment, Kyle, G. B. (ADF&G, 1994)

Koenings and Burkett (ADF&G, 1987a) have also linked one physical feature of lakes to the base of the food chain with respect to sockeye salmon production. That is the euphotic volume ([EV], the upper levels of the lake down to the effective light penetration for photosynthesis). Knowing the EV, sockeye fry/smolt production objectives can be established. From their work, Koenings and Burkett have developed a stocking model (110,000 spring juveniles, 23,000 smolts, 2,500 adults) that uses the number of EV units unique to each lake to estimate expected production. With the aforementioned model and classification we can proceed with the pre-enhancement study with the following defined objectives.

Lake selection criteria

1. Food supply must limit salmonid growth (rearing limited) during the fresh water rearing period life cycle during some or all of the growing period.

2. For nutrients to be available to the phytoplankton, the following should be fulfilled:
   A. The mean depth of the lake should be greater than the euphotic zone.
   B. The epilimnion should be less than twice the depth of the euphotic zone.
   C. The flushing rate of the epilimnion should have a flushing rate of a year or more.
   D. Shoreline should be steep with little vegetation.
   E. Light penetration should not limit primary production and turbidity should be low.

3. Nutrient enhancement is compatible with existing water usage.

4. ADF&G must be able to monitor, manage and evaluate the adult return.

5. Existing fry densities should be high enough (300-400 fry per hectare). Lower densities would increase costs.

6. Spawning areas should be large enough to accommodate increased number of spawners.

7. Predator numbers should not limit salmonid production.

Feasibility Sampling

The following parameters will be sampled and measured following procedures in the "Limnological Field and Laboratory Manual: Methods For Assessing Aquatic Production" (ADF&G, 1978).

1. Physical parameters
   A. Water flow
   B. Lake mapping for depth contours and volume estimates.
   C. Light penetration.
   D. Other factors such as temperature regimes and turbidity.

2. Chemical parameters
   A. Water sampling once per month and evaluated per limnological field and laboratory guidelines.

3. Biological parameters
   A. Primary production i.e.: phytoplankton sampling, should be done once per month.
   B. Secondary production i.e.: zooplankton sampling, should be done once per month.
   C. Tertiary production i.e.: adult salmon production is to be enumerated.

4. Determine the water residence time of Delight and Desire Lakes.

   Water discharge will be measured in the outlet streams twice during low, medium and high flow periods. Water level in the lakes will be measured at the same time and a relationship will be developed between the two variables to establish a flushing rate throughout the pre-fertilization phase.

Pre-Fertilization Study

The objectives of the pre-fertilization study involves the detailed monitoring of the physical, chemical and biological factors of the lake. Many of the objectives with the pre-fertilization study are similar to the objectives of the criteria used to select lakes for nutrient enrichment. The pre-fertilization phase will last a minimum of 1-2 years. The data base accumulated during the pre-fertilization study will be used to determine suitability of the lakes to nutrient enrichment and when phase two is implemented, the data base would be used to evaluate the success of the fertilization project.

Phase two (Lake Fertilization)

The goal of Alaska's lake enrichment program is to increase the zooplankton biomass without negatively altering the zooplankton species composition or changing the lake's oligotrophic state Kyle G. B. (ADF&G, 1994). The objectives of the Delight and Desire Lake enrichment program would not differ from those established by the Department of Fish and Game. The objectives, through lake fertilization, would develop a higher quality rearing environment and increase smolt production.

Based on the results of phase one (pre-fertilization study) a prescribed amount of liquid fertilizer (mg P/m^2/week) would be applied to all or a particular area of the lake surface either by aircraft using a crop duster technique or by a boat and pump system. The application period would likely commence when the water temperature reaches 5^0 C (June 1st-10th) and last until approximately September 1. For a remotely located area such as Delight and Desire Lakes, aerial application would be the least expensive, if topographically safe for aircraft.

B. Methods, Phase one (lake selection and pre-fertilization phase)

Methodology of **phase one** of the project would follow the guidelines established by the Alaska Department of Fish and Game and the readers are referred to "Policy and Guidelines For Lake Fertilization" (ADF&G, 1979) and "Limnological Field and Laboratory Manual: Methods For Assessing Aquatic Production" (ADF&G, 1978). In addition, all proposed sampling schemes and survey programs will be reviewed and approved by the limnology section of ADF&G. The proposers assume that the lead agency, ADF&G, will manage and implement the project.

1. Lake selection criteria.
   Methodology for the lake selection criteria will be the same as the methods used for the feasibility sampling, pre-fertilization and fertilization phase outlined in the following:

2. Feasibility Sampling.
   All methodology to sample and measure the following parameters will follow "Limnological Field and Laboratory Manual: Methods For Assessing Aquatic Production"

Physical parameters

A. Water flow.
B. Lake mapping for depth contours and volume estimates.
C. Light penetration.
D. Other factors such as temperature regimes and turbidity.

Chemical parameters

A. Water sampling once per month during the ice-free period and evaluated per limnological field and laboratory guidelines. Parameters to be sampled include:

Alkalinity	Metals
Keljdahl nitrogen	Ammonium
Nitrate	Particulate phosphorus
Particulate nitrogen	Dissolved oxygen
Nitrite	Dissolved solids
Reactive phosphorus	Specific conductance
Reactive silica	pH
Total phosphorus	

Biological parameters

A. Primary production: phytoplankton sampling, should be done every four weeks during the ice-free period.

B. Secondary production: zooplankton sampling, should be done once per month. Zooplankton are to be identified, counted and wet and dry weights determined

C. Tertiary production: adult salmon production is to be enumerated.
- Enumeration of fry and rearing juveniles to be made by tow netting and/or acoustical methods.
- Smolt and adult enumeration would be made by appropriate means i.e.: weir and fyke net.
- Salmonid viral and bacterial diseases would be monitored.

D. Determination of the following factors will be made:
- Smolt and adult enumeration will include age-weight-length data.
- Beach spawning areas will be estimated.
- Stomach of juvenile salmon would be collected and identified to determine food preferences.
- Information necessary to determine fecundity and egg-fry, fry-juvenile, and juvenile-smolt survival is to be collected.

E. Other Determinations
- The entire fertilization project and design will be reviewed by the Alaska Department of Fish and Game, Limnology Section.

- A public awareness program conducted to inform interested people of the potential of the lake fertilization program.

Methods, Phase two (Lake Fertilization)

Results of the lake selection and pre-fertilization phase will determine the amount, type (ratio of Phosphorus to Nitrogen, P:N) the rate which the fertilizer will be applied and the area of the lake to be covered. Since only very limited limnological survey work has been done on Delight and Desire Lakes to date, exact methodologies for the fertilizer application cannot be developed until the phase one inventories and surveys have been completed. The Cook Inlet Seiners Association has worked in cooperation with ADF&G on the Leisure and Chenik Lake fertilization program for several years. Results from the Leisure Lake project and the euphotic volume (EV) model developed by Koenings and Burkett indicate methodologies and procedures could be developed for the Delight and Desire Lake fertilization project.

C. Contracts and Other Agency Assistance

The Lower Cook Inlet Seiners Association assumes that the lead agency with the specific expertise (ADF&G) will implement the project.
Currently, the only contracts anticipated with the private sector would be contractual services with local air taxi services.

Contractual services would be arranged with the Limnology Laboratory of ADF&G to analyze all limnology samples, i.e, water and plankton samples. In addition, fertilizer procurement would be arranged through contracts with private vendors.

D. Location

Delight and Desire Lakes is located in the East Arm of Nuka Bay (McCarty Fiord) on the Eastern Kenai Peninsula approximately 77.0 km southwest of Seward and 70 km. east of Homer. Communities that would benefit from the proposed project include the villages of Port Graham, Nanwalek and Seldovia as well as Homer and Seward.

SCHEDULE:

A. Measurable Project Tasks For FY/97

Project tasks for FY/97 would complete a comprehensive chemical, physical and biological survey of Delight and Desire Lakes as part of phase one (lake selection and pre-fertilization study). The surveys would begin as soon as ice is off the lakes (early May). A smolt enumeration camp would be stationed at both lakes. Lake sampling would be conducted in conjunction with the smolt project and continue through October or as directed by ADF&G, Limnology staff.

The following schedule is anticipated beginning in the spring of 1997.

Start-up to April 15:..... Arrange logistics (camp, boats, sampling equipment and consult with land owners).
April 16 to July 1..... Establish smolt evaluation camp and conduct limnology surveys.
July 2 to October 1..... Conclude spring, summer, fall limnology surveys and evaluate smolt data.
April 1998.....Annual report on 1997 lake survey results.

B. Project Milestones and Endpoints

Start-up to October 1997.....Complete 1st year lake feasibility and pre-fertilization surveys.
October 97 to April 1998.....Complete data analysis of lake feasibility and pre-fertilization surveys.
April 1998 to October 1998.....Complete 2nd year lake feasibility and pre-fertilization surveys.
October 98 to April 1999.....Complete 2nd years survey data analysis and determine fertilizer application rates, amounts and formula.
June 1999 to Sept. 99.....Apply fertilizer and continue lake limnology surveys.
October 1999 to April 2000.....Analyze lake survey data and evaluate lake enrichment project.
June 2000 to Sept. 2000.....Continue with lake enrichment program
Sept. 2000 to April 2001.....Analyze 2nd year lake enrichment program.

C. Project Reports

All project reports will be completed when required. Annual reports will submitted on or before April 15th following the year in which restoration activities took place. A final report will be submitted to the chief scientist following the year in which final restoration objectives took place.

COORDINATION AND INTEGRATION OF RESTORATION EFFORT:

The Department of Fish and Game currently operates a lake fertilization program on Leisure Lake located approximately 16 km east across Kachemak Bay from Homer. ADF&G has several pieces of sampling and field equipment (field camps, limnology survey equipment etc.) that can be used with the Delight and Desire Lakes project.

Despite several years of encouragement by local commercial fishermen and the Port Graham Association, ADF&G, Commercial Fisheries Management and Development Division, has not been able to fund the Delight and Desire Lake pre-fertilization program in the face of state revenue declines.

ENVIRONMENTAL COMPLIANCE:

It is understood by the Lower Cook Inlet Seiners Association that National Environmental Policy Act (NEPA) requirements are to be met. It is further understood that phase one of the proposed project (research and monitoring) may be included under a nation wide exclusion from the U.S. Army Corps of Engineers since the environment (Delight and Desire Lakes) will not be altered in any appreciable way. Federal representation on the *Exxon Valdez* Trustee Council would mandate that federal NEPA requirements be satisfied for phase two of the proposed project if liquid fertilizer is applied to Delight and Desire Lakes.

Recently, Federal land transfers in the Eastern Kenai Peninsula have resulted in the Port Graham Association owning large tracts of land from Aialik Bay south to and including Delight and Desire Lakes.

PERSONNEL:

Lower Cook Inlet Seiners Association:

Chuck Walkden.....President

Darlene Hilderbrand.....Executive Secretary

Board Members

John Blackwell	Pat Norman
Rob Nelson	Larry Cabana
Phil Brudie	Doug Schwiesow
Tom Nelson	AlRay Carroll

Alaska Department of Fish and Game (Lead Agency)

Project leader: Nick C. Dudiak; Lower Cook Inlet Fisheries Resource Development Biologist.

Mr. Dudiak has been a fisheries biologist with the Alaska Department of Fish and Game for the last 19 years. He has been responsible for the commercial and sport fisheries rehabilitation and enhancement work in the Lower Cook Inlet area during those 18 years. In this capacity, he has been responsible for multi-disciplinary work involving the rehabilitation of depleted salmon stocks

as well as enhancement activities that have created new and developing commercial and sport fisheries.

Project Manager: Mark Dickson, Fish and Wildlife Technician IV.

Mr. Dickson has been employed as a fish culturist and fish and game technician with the Alaska Department of Fish and Game for the past 19 seasons. He has considerable experience in fish cultural practices in the field and in the hatchery managing projects that restores and enhances sport and commercial fisheries in the Lower Cook Inlet area.

Gary Kyle, Regional Limnologist, Limnology Laboratory, Alaska Department of Fish and Game, Division of Commercial Fisheries, Management and Development, Soldotna.

Mr. Kyle has been employed with ADF&G since 1977. Since 1988, Mr. Kyle has served as the regional limnologist for the Southcentral Region comprising of the Interior, PWS, Cook Inlet and Alaska Peninsula. Mr. Kyle has presented 34 technical reports, 8 journal manuscripts, 24 formal presentations and 6 magazine articles dealing with adult sockeye production, lake fertilization, lake stocking, and in-lake assessments of juvenile sockeye production.

Literature Cited

ADNR. 1989 — Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Study Site Maps, *Exxon Valdez* Oil Spill. Alaska Department of Natural Resources.

ADF&G. 1994 — Lower Cook Inlet Annual Finfish Management Report. Commercial Fisheries Management & Development Division Staff. Regional Information Report No. 2A95-06.

ADF&G. 1994 — Lower Cook Inlet Annual Finfish Management Report. Commercial Fisheries Management & Development Division Staff.

ADF&G. 1994 — Kyle, Gary B. Nutrient Treatment of 3 Coastal Alaskan Lakes: Trophic Level Responses and Sockeye Salmon Production Trends. Alaska Fishery Bulletin 1(2):153-167. 1994.

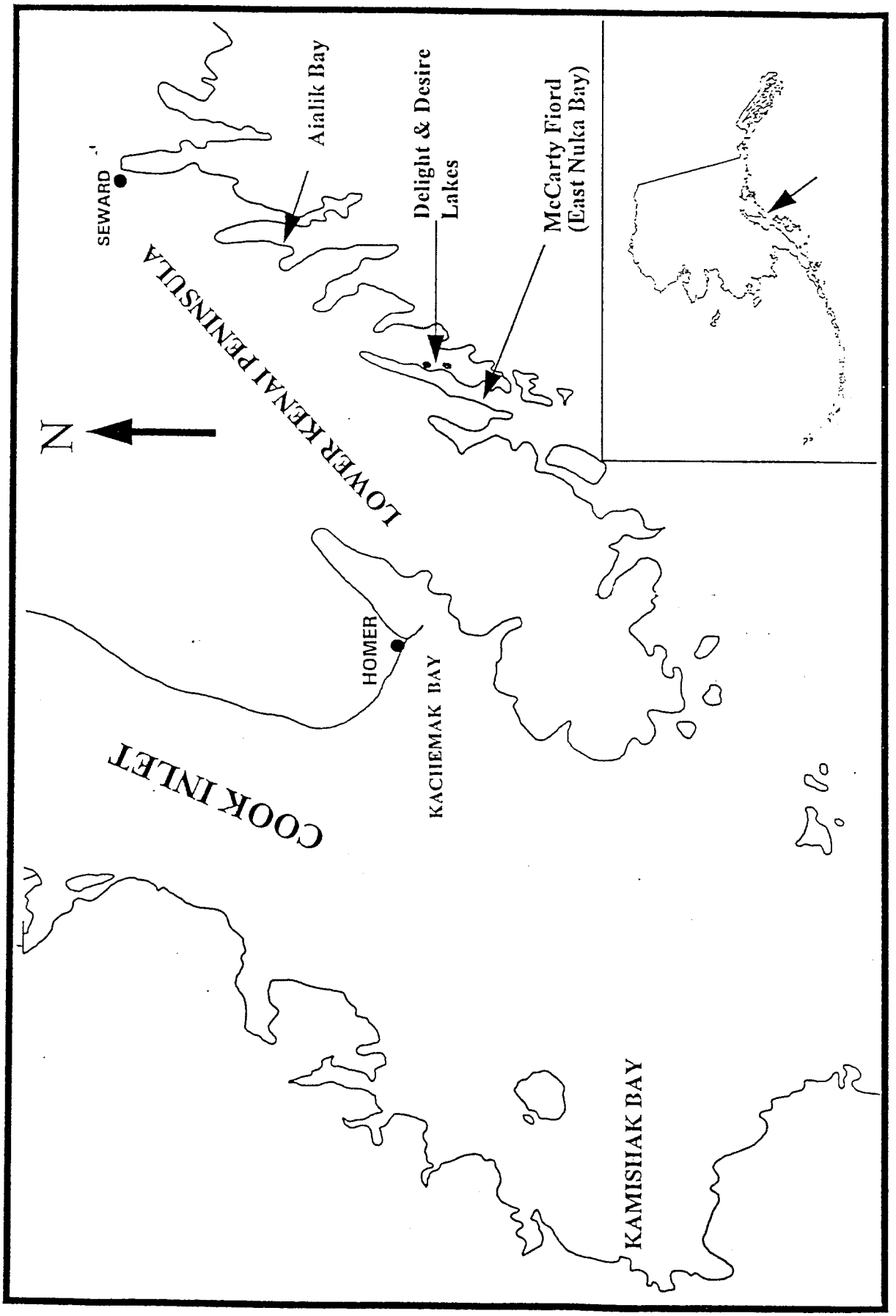
ADF&G. 1994 — Willette, Mark. Impacts of the *Exxon Valdez* Oil Spill on The Migration, Growth and Survival of Juvenile Pink Salmon in Prince William sound. Commercial Fisheries Management and Development. Alaska Department of Fish and Game.

ADF&G. 1987 — Lake Fertilization Team. Policy and Guidelines For Lake Fertilization. Alaska Department of Fish and Game. FRED, Sport and Commercial Fisheries Division.

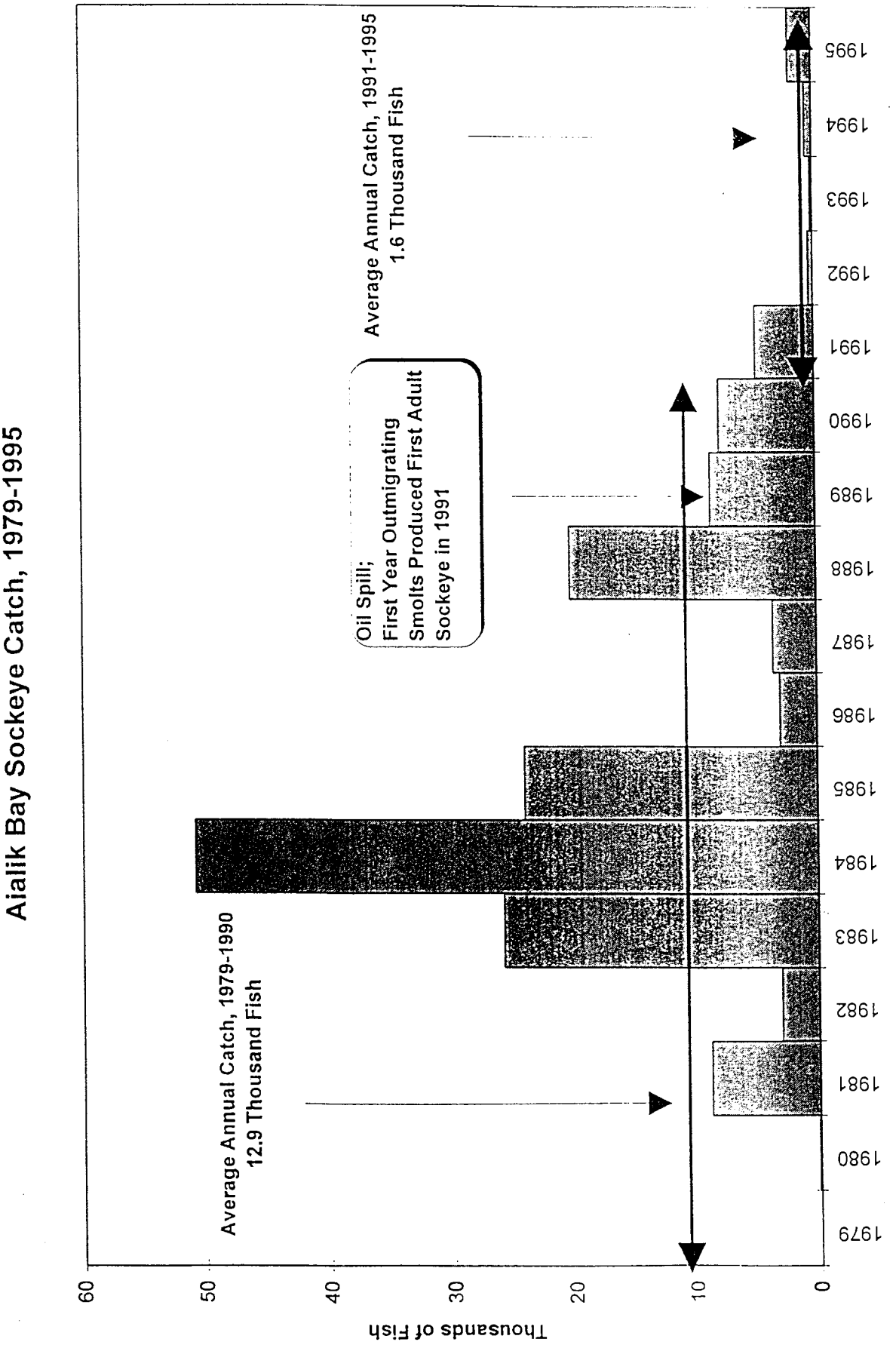
ADF&G. 1989 — J.P. Koenings, R.D. Burkett, M. Haddix, G.B. Kyle and D.L. Barto. Experimental Manipulation of Lakes For Sockeye Salmon (Oncorhyncus nerka) Rehabilitation and Enhancement. Number 96. Alaska Department of Fish and Game. FRED Division.

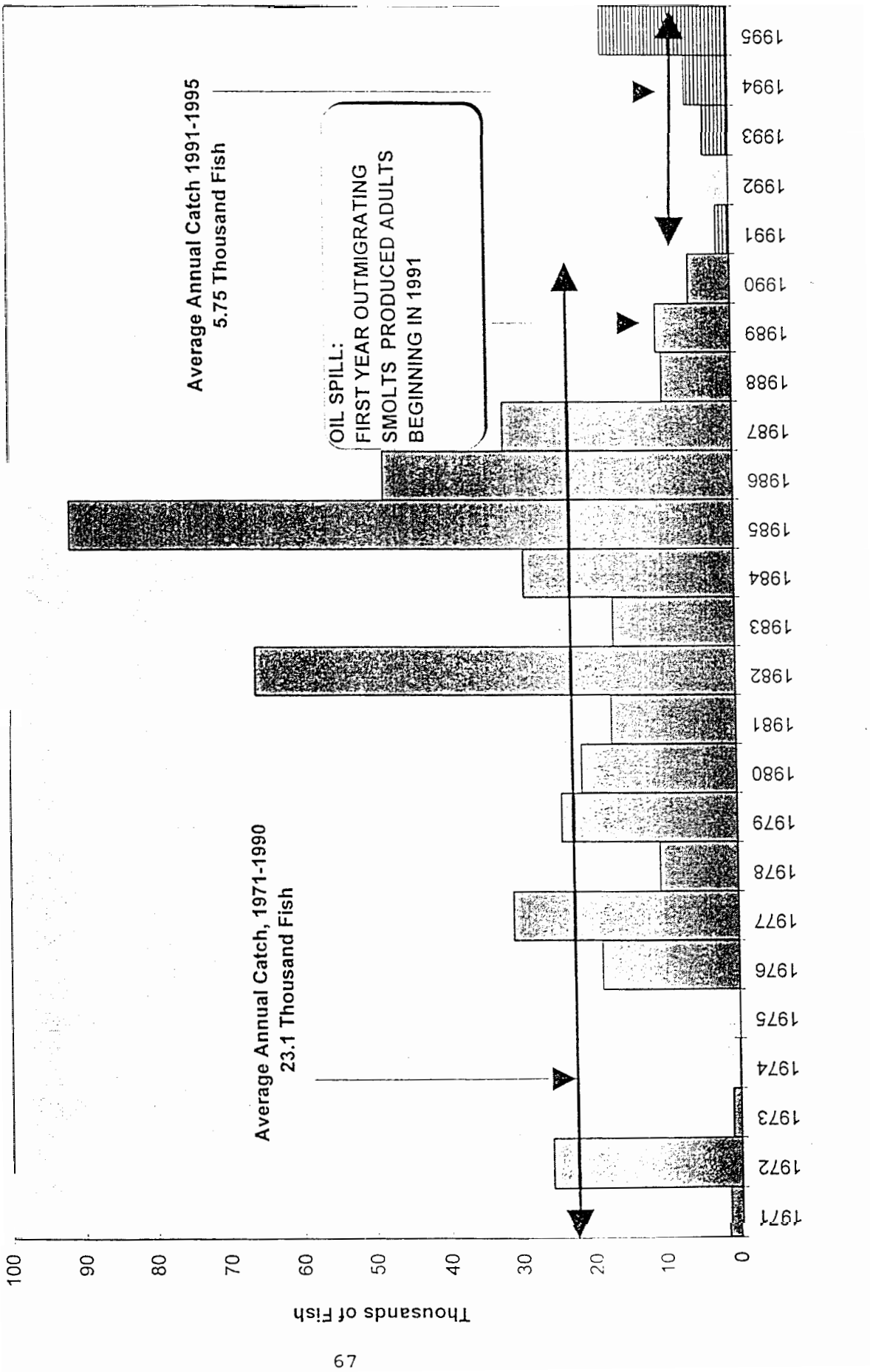
ADF&G. 1987a — J.P. Koenings and R. D. Burkett. Population Characteristics of Sockeye Salmon (Oncorhyncus nerka) smolts relative to temperature regimes, euphotic volume, fry density and forage base within Alaskan lakes. p. 216-234. Can. Spec. Publ. Fish. Aquat. Sci. 96:486 p.

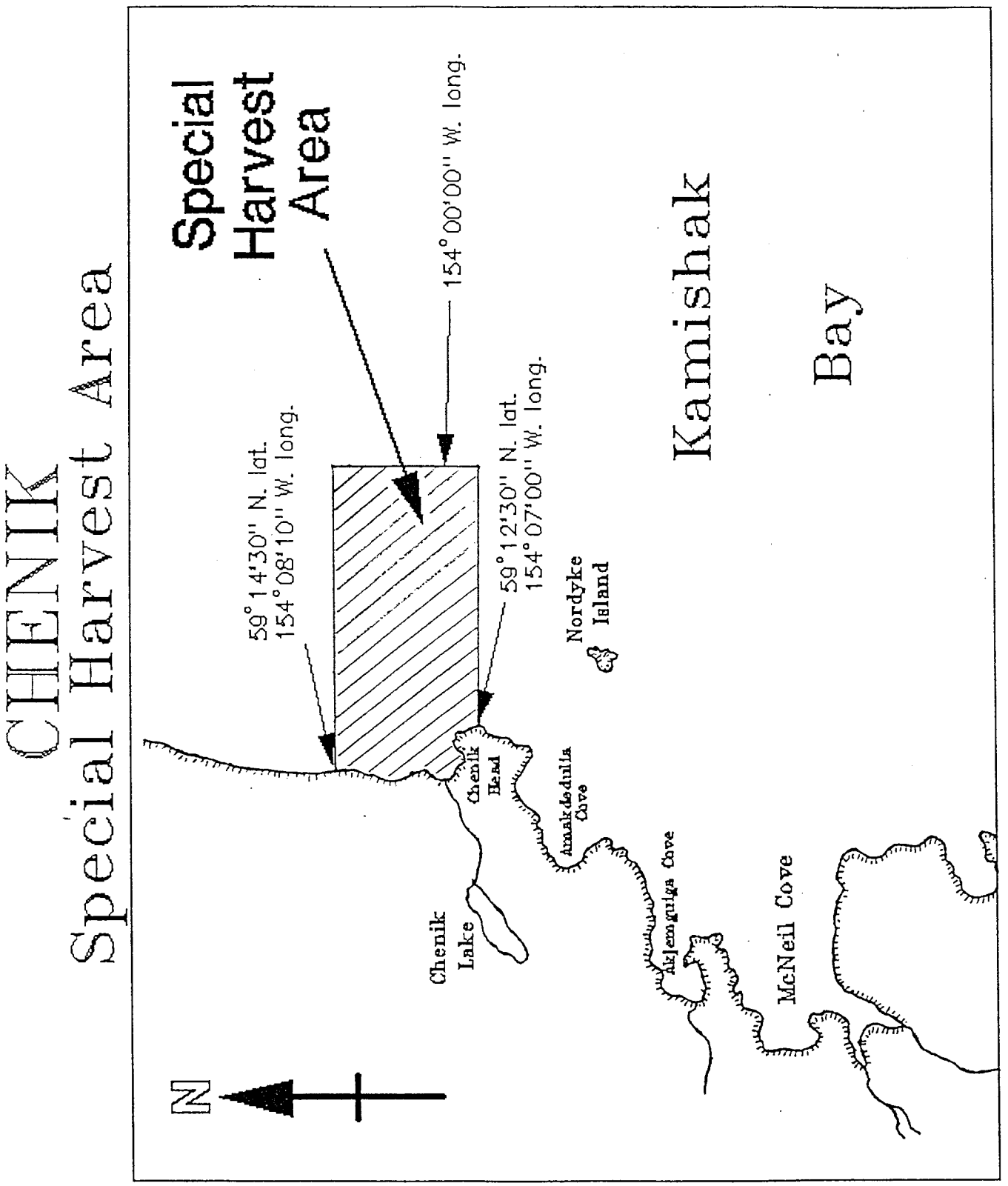
ADF&G. 1987 — J.P. Koenings, Jim A. Edmunson, John M. Edmunson and Gary B. Kyle Limnology Field And Laboratory Manual: Methods For Assessing Aquatic Production. Number 71. Alaska Department of Fish and Game. FRED Division

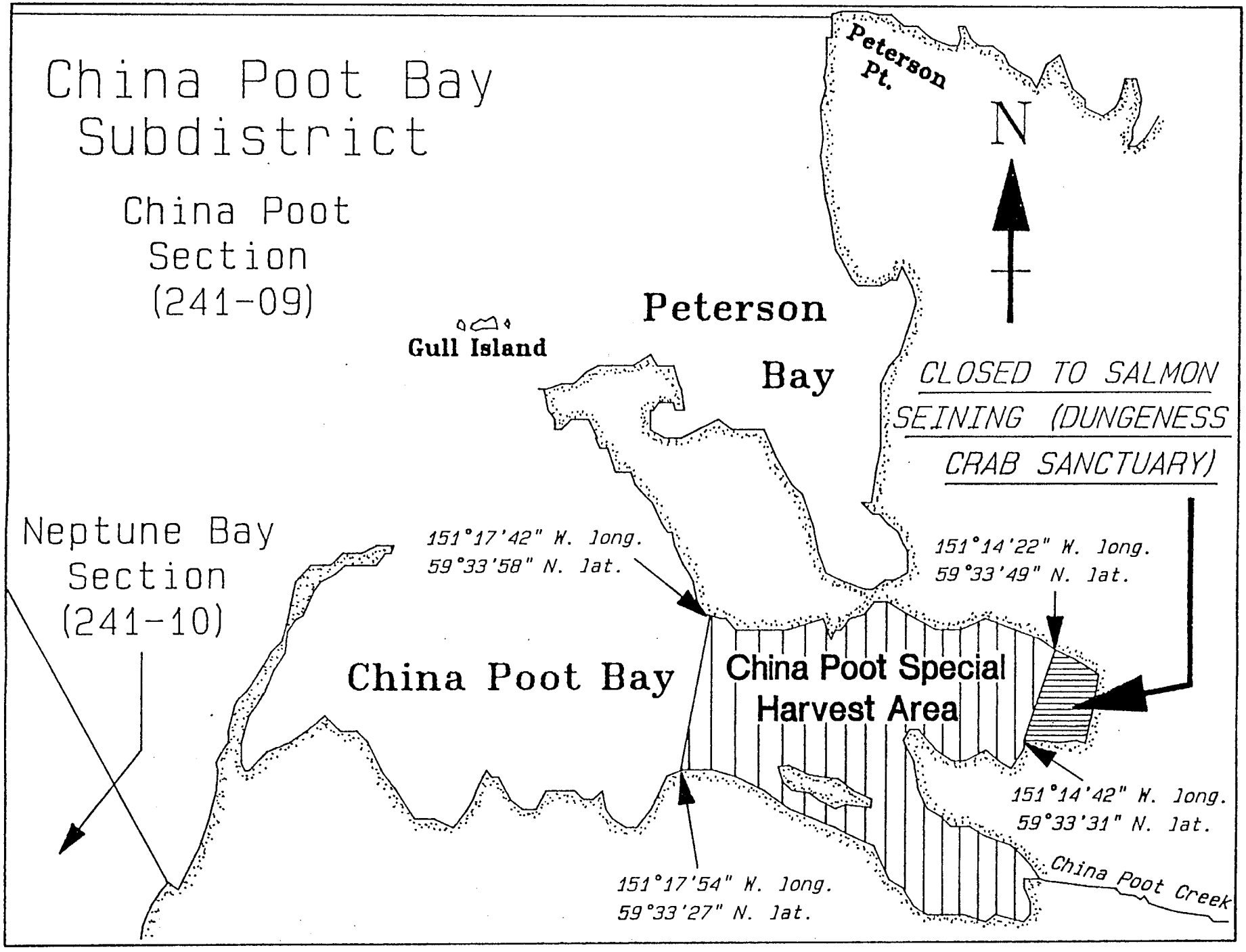


LOCATION MAP SHOWING DELIGHT & DESIRE LAKES WITH AIALIK BAY AND McCARTY FIORD


Aialik Bay Sockeye Catch, 1979-1995
Thousands of Fish
60
50
40
30
20
10
0
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
Average Annual Catch, 1979-1990
12.9 Thousand Fish
Oil Spill;
First Year Outmigrating
Smolts Produced First Adult
Sockeye in 1991
Average Annual Catch, 1991-1995
1.6 Thousand Fish


Sockeye Catch: Nuka Bay 1971-95
Average Annual Catch 1991-1995
5.75 Thousand Fish
OIL SPILL:
FIRST YEAR OUTMIGRATING
SMOLTS PRODUCED ADULTS
BEGINNING IN 1991
Average Annual Catch, 1971-1990
23.1 Thousand Fish
Thousands of Fish
100
90
80
70
60
50
40
30
20
10
0
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995


CHENIK
Special Harvest Area
Special Harvest Area
59°14'30" N. lat.
154°08'10" W. long.
154°00'00" W. long.
59°12'30" N. lat.
154°07'00" W. long.
Nordyke Island
Chenik Head
Amakdedulia Cove
Chenik Lake
Akjemgtuga Cove
McNeil Cove
Kamishak Bay
N


China Poot Bay Subdistrict
China Poot Section (241-09)
Neptune Bay Section (241-10)
Peterson Pt.
N
Gull Island
Peterson Bay
CLOSED TO SALMON SEINING (DUNGENESS CRAB SANCTUARY)
151°17'42" W. long.
59°33'58" N. lat.
151°14'22" W. long.
59°33'49" N. lat.
China Poot Bay
China Poot Special Harvest Area
151°14'42" W. long.
59°33'31" N. lat.
151°17'54" W. long.
59°33'27" N. lat.
China Poot Creek

PORT GRAHAM CORPORATION

P.O. BOX 5569 • PORT GRAHAM, ALASKA 99603-5569 • (907) 284-2212 • FAX 284-2219

December 29, 1995

Darlene Hilderbrand
Cook Inlet Sieners Association
Homer, AK 99603

Dear Darlene,

Our Corporation is receiving conveyance to the Kenai Fjord land around Delight and Desire lakes and on land in Aialik Bay around Pederson Lagoon and its lake. In the past we had discussions with Cook Inlet AguaCulture on fertilization of Delight and Desire to enhance the red salmon runs there. Riley Meganack has told me that Cook Inlet Sieners was interested in doing work down there with enhancement. Our Corporation is interested in enhancing these two lakes also and would like your ideas on this. I understand Nick Dudiak is putting a study proposal together for you and we are interested in this also.

Sincerely,

Patrick Norman, President
PORT GRAHAM CORPORATION

PN/vfy

1996 SELDOVIA SUBDISTRICT SUBSISTENCE FISHERY WORKPLAN

INFORMATION DISSEMINATION: A news article could appear in the Homer News. Radio interview (mid March). Preseason public meeting (mid March). Posters

PRESEASON MEETING: During the third week of March, a public meeting will be held in Seldovia for ADF&G staff to provide background information on the fishery, and to answer questions from the public.

FISH AND WILDLIFE TECHNICIAN II MONITOR: Provided available funding, one F&W Technician II will be onsite to monitor and document activities of the fishery, and to conduct creel sensus to gather information on chinook salmon harvest. Funding and PCN will have to be provided by Division of Commercial Fisheries.

IN-SEASON HARVEST MONITORING: Division of Subsistence staff will spend one week in Seldovia setting up the monitoring effort. This will include: instructing a harvest monitor in permit issuance; locating where the harvest monitor can be headquatered and housed; setting up skiff transportation and personal safety equipment for the monitor; familarizing with open and closed waters boundaries, legal gear, and other regulations; .

SELDOVIA SUBSISTENCE PERMIT ISSUANCE INSTRUCTIONS

1. Subsistence fishing permits for the Seldovia Subdistrict are available to any Alaska resident who has resided a minumum of 12 consecutive months in Alaska. Proof of residency may include a valid Alaska driver's license, Alaska resident hunting or fishing license,

2. One permit is allowed per household.

3. There is a 20 chinook salmon bag limit and no limit on the number of other salmon.

4. Map of open waters.

5. Description or diagram of legal gear.

6. People with complaints or questions about the fishery should contact the Division of Subsistence at (907) 267-2353.

7. Be sure permit applicants read and fill out the front of the permit. They must sign to certify their Alaska residency.

8. The issuing officer should check to information provided by the applicant and sign and date the permit.

9. A permit log will be kept with the names of permittees, addresses, and date of permit issuance.

10. Permitees should be told the regulations. Emphasize the need to return in the permit on time.

11. Daily harvest monitoring will be conducted during the fishery.

1996 SELDOVIA SUBSISTENCE SALMON FISHING PERMIT #_____

SELDOVIA SUBDISTRICT - APRIL 1 - MAY 20

SEE REGULATIONS ON REVERSE SIDE

HEAD OF HOUSEHOLD (Print Below)		
LAST NAME	FIRST NAME	MI
DEPENDENTS		
ADDRESS		COMMUNITY
I CERTIFY THAT I HAVE RESIDED IN ALASKA FOR TWELVE (12) CONSECUTIVE MONTHS		
(PERMITTEE SIGNATURE)		(DATE)
(ISSUING OFFICER)		(DATE)

ALLOWABLE CATCH FOR THIS HOUSEHOLD: KING SALMON: 20 OTHER SALMON: NO LIMIT

RECORD NUMBER OF FISH CAUGHT

INCLUDE DAYS FISHED EVEN IF NO FISH CAUGHT

FISHED [ ] DID NOT FISH [ ]

SEASON	KING	RED	PINK	CHUM	SILVER	OTHER	TOTAL
DATES							
TOTAL							

Please return this permit by June 15, 1996 to the Alaska Department of Fish and Game, Division of Subsistence 333 Raspberry Rd. Anchorage, AK 99518. The permit may also be turned in at the Seldovia Native Association office.

After turning in this permit, you may obtain a second permit for salmon fishing on Saturday and Sunday only, during the first two weeks in August. Failure to return this permit will deny you a second permit.

1996 SELDOVIA SUBSISTENCE SALMON FISHING PERMIT #_____

SELDOVIA SUBDISTRICT - AUGUST 3,4, 10,11

SEE REGULATIONS ON REVERSE SIDE

HEAD OF HOUSEHOLD (Print Below) LAST NAME FIRST NAME MI
DEPENDENTS
ADDRESS COMMUNITY
I CERTIFY THAT I HAVE RESIDED IN ALASKA FOR TWELVE (12) CONSECUTIVE MONTHS _____ _____ (PERMITTEE SIGNATURE) (DATE)
_____ _____ (ISSUING OFFICER) (DATE)

ALLOWABLE CATCH FOR THIS HOUSEHOLD: KING SALMON: __ OTHER SALMON: NO LIMIT

RECORD NUMBER OF FISH CAUGHT

INCLUDE DAYS FISHED EVEN IF NO FISH CAUGHT

FISHED [ ] DID NOT FISH [ ]

SEASON	KING	RED	PINK	CHUM	SILVER	OTHER	TOTAL
DATES							
3-Aug-96							
4-Aug-96							
10-Aug-96							
11-Aug-96							
TOTAL							

Please return this permit by June 15, 1996 to the Alaska Department of Fish and Game, Division of Sub Anchorage, AK 99518. The permit may also be turned in at the Seldovia Native Association office. After turning in this permit, you may obtain a second permit for salmon fishing on Saturday and Sunda during the first two weeks in August. Failure to return this permit will deny you a second permit.

1996 SELDOVIA SUBSISTENCE FISHERY REGULATIONS

5AAC 01.560. Fishing Seasons and Daily Fishing Periods.

(b) Salmon may be taken for subsistence purposes only as follows:

(8) in the waters of Seldovia Bay described in 5AAC 01.566(1)

(A) from April 1 through May 20, from 6:00 a.m. Monday until 6:00 a.m. Wednesday and from 6:00 a.m. Thursday until 6:00 a.m. Saturday; and

(B) during the first two Saturdays and Sundays in August from 6:00 a.m. Saturday until 6:00 p.m. Sunday, except that if a commercial fishing period is open, the subsistence fishing period will be closed by emergency order and reopened during the next period closed to commercial fishing;

(C) the guideline harvest level for king salmon taken under (A) of this paragraph is 200 king salmon.

5AAC 01.570 Lawful Gear and Gear Specifications.

(b) Salmon may be taken only as follows:

(2) in the water of Seldovia Bay described in 5AAC 01.566(1), by set gillnets not exceeding 35 fathoms in length, six inches in mesh size and 45 meshes in depth;

(3) no part of a set gillnet may be set or operated within 600 feet of any part of another set gillnet;

(c) No person may operate or assist in the operation of subsistence salmon net gear on the same day that person operates or assists in the operation of commercial gear.

(d) "the holder of a subsistence permit must be present at the net site."

5AAC 01.595. Subsistence Bag and Possession Limits. (a) The total annual possession limit for each salmon fishing permit is as follows:

(1) there is no annual possession limit for holders of Port Graham and Koyuktolik Subdistrict and Seldovia Bay subsistence salmon fishing permits, except that in Seldovia Bay a person holding a subsistence permit may not take more than 20 king salmon per household.

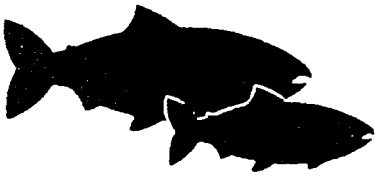
5AAC 77.549. Personal Use Coho Salmon Fishery Management Plan. (a) In the Southern District, only in a year in which a subsistence fishery is not conducted in the same area, salon may be taken for personal use under the plan set out in this section from August 16 through September 15, from 6:00 a.m. Monday until 6:00 a.m. Wednesday, and from6:00 a.m. Thursday until 6:00 a.m. Saturday. The department shall close the fishery when a guideline harvest range of 2,500 to 3,500 coho salmon have been taken. Coho salmon taken under 5AAC o1.560(b)(8)(B) will be counted toward the guideline harvest range established under this subsection.

Identification markings and bouys.

ALASKA DEPARTMENT OF FISH AND GAME

COMMERCIAL FISHERIES

NEWS RELEASE



Frank Rue
Commissioner

Bob Clasby, Director
Commercial Fisheries Management and Development Division
Juneau

Contact:
Wes Bucher, Lee Hammarstrom
Finfish Management Biologists
CFM&D Division
Telephone (907) 235-8191

Herring Announcement No. 1
Issued at Homer, Alaska
Wednesday, January 10, 1995

1996 LOWER COOK INLET HERRING FISHERY INFORMATION

This notice is intended to provide essential information for fishermen and processors as they prepare for the 1996 herring season. Lower Cook Inlet (LCI) herring resources are managed via three independent sac roe fishery management units: 1) Kamishak Bay District; 2) Southern District, which includes Kachemak Bay; and 3) Outer/Eastern Districts, on the Gulf of Alaska (Figures 1 and 2). Management policies discourage the harvest of herring for food/bait in the LCI management area in order to avoid harvesting juvenile fish or fish of inferior roe quality. Management strategies for LCI sac roe fisheries are designed to provide for an optimum sustained yield and continued long-term health of the resource, while affording the greatest economic benefit to fishermen and processors.

KAMISHAK BAY DISTRICT

The 1996 herring biomass in the Kamishak Bay District is projected to be 20,925 tons or approximately 17% less than the 1995 estimated return (Figure 3). The 1996 Kamishak herring abundance forecast was generated from an age-structured-analysis (ASA) model similar to that used for Kamishak Bay during the last two years and also for Sitka Sound, Prince William Sound (PWS), and Togiak. The Kamishak model projects a slight decrease in herring abundance. Nearly 60% of the 1996 projected biomass (by weight) will be comprised of age-8 fish from the 1988 year class (Figure 4), while the overall predicted mean weight is 223 grams. A detailed report (RIR No. 2A96-01) regarding the 1996 herring forecast is in press and will be available from ADF&G area offices this spring.

The Kamishak Bay District Herring Management Plan (regulation 5 AAC 27.465.) dictates that a maximum 15% exploitation rate be utilized to set the 1996 guideline harvest level since the projected biomass falls between 20,000 and 30,000 short tons. However, due to concerns over the

low abundance of recruit-age herring (ages 3 and 4) during 1994 and 1995, and continued declines in the estimated biomass since 1993, a more conservative exploitation rate of 12% was chosen to set the guideline harvest level for the 1996 season. Based on the projected return of 20,925 tons, a total surplus of approximately 2,500 tons would be available for harvest at the 12% exploitation rate. In addition to the spring sac roe fishery in Lower Cook Inlet, a fall food and bait fishery on Kamishak Bay herring stocks occurs in the Shelikof Strait area of the Kodiak Management Area. By regulation the Shelikof fishery is typically allocated 10% of the total allowable harvest for Kamishak Bay herring stocks, which equates to a maximum potential allocation of 2% of the total forecasted Kamishak Bay herring biomass. Harvest allocation in 1996, in accordance with the Kamishak Bay Herring Management Plan, will be as follows:

		Tons
KAMISHAK BAY SAC ROE HARVEST	(10.8%)	2,250
SHELIKOF STRAIT FOOD & BAIT	(1.2%)	250
TOTAL ALLOWABLE HARVEST	(12.0%)	2,500

As in recent years, a very conservative approach will be taken with regard to any harvest of young, newly recruited herring since these fish will provide future spawning stock and contribute to long-term harvests. No fishery on young (ages 3 and 4) fish will be considered this season. Unless data becomes available indicating that significant recruitment has occurred, or that an unusually large biomass has moved into the district, the Kamishak Bay sac roe harvest will not be allowed to exceed 2,250 tons.

By Board of Fisheries directive, the Kamishak Bay District herring fishery is managed with the intent of harvesting 10-20% of the available biomass. In contrast, pre-determined harvest levels were set for the other three districts in Lower Cook Inlet. Management strategies for these districts are described below.

SOUTHERN DISTRICT

Guidelines for the Southern District sac roe fishery allow a limited harvest of 150-200 tons for the purposes of obtaining age, weight, length, and roe recovery information. However, herring abundance has been insufficient in the Southern District during the past six seasons to warrant a commercial fishery. Based on recent historical trends in this district, a commercial fishery is again considered unlikely during 1996. If sufficient quantities of herring are observed, management strategy will be similar to that in the Kamishak Bay District whereby aerial surveys will be conducted to estimate biomass, and volunteer test boats would be utilized to obtain roe recovery

and age composition samples. Aerial assessment and sampling, however, will be conducted in the Southern District only after the Kamishak District fishery is completed.

OUTER AND EASTERN DISTRICTS

No herring fishery openings are anticipated in the Outer and Eastern Districts during 1996. Based on information gathered during the past decade, including harvests of predominantly age-3 herring, there is no compelling evidence to suggest commercially sufficient quantities of adult herring will be present in either district during the coming season. However, should such evidence become available, guideline harvest levels allow 150-200 tons for each of the four management areas in the Outer and Eastern Districts (Figure 1). These districts, like the Southern District, would not be opened to sac roe seining until after the fishery in the Kamishak Bay District is over. Fisheries in the Outer and Eastern Districts will be viewed as exploratory in nature, and would only be allowed to continue as long as high quality sac roe is being harvested. No herring bait harvest will be allowed, and catches shall be reported **daily** to the Homer area office.

Should an opening be announced, **all fishermen intending to fish in the Outer and Eastern Districts are required to register in person at the Homer office prior to fishing**. Information provided at the time of registration will be used to help monitor catches and collect samples for age composition analysis. Until questions about abundance and stock composition within these two districts are resolved, an extremely conservative management approach will be applied.

GENERAL INFORMATION

Pre-fishery monitoring of the Kamishak Bay District will begin approximately April 17 as weather and ice conditions permit. Aerial surveys will commence at that time and continue throughout the spawning season to determine relative abundance and distribution. A 24-hour telephone recording in the Homer office will report the most current information on the status of the fishery beginning around April 1. Please call (907) 235-7307 for updates. As in past seasons, the Department anticipates considerable pre-season test fishing effort utilizing volunteer vessels and aircraft spotters to locate and follow the herring migration. Industry technicians will again be asked to evaluate test fish samples for roe recovery prior to commercial fishing periods to help maximize product quality and value. Test fish samples will also be used to monitor age composition throughout the duration of the run. If possible, it is the staff's intent to prosecute the fishery on the early returns prior to the period of peak herring abundance. Experience gained during recent years has demonstrated that this strategy should help to 1) target the harvest on older fish, thus yielding higher roe recoveries while minimizing the harvest of young fish; and 2) reduce the risk of exceeding the guideline harvest level.

As in past years, **all prospective herring processors and buyers are required to register with ADF&G prior to buying any herring (regulation 5 AAC 27.462)**. Although this may be accomplished at the Homer office, processors and buyers operating in the Kamishak Bay District are encouraged to register on the grounds prior to the fishery opening. A list of tenders and processing vessels planning to actually be on the grounds will be requested from each company. The Department recommends that all processors and buyers register as soon as possible after

arriving on the grounds to avoid logistical complications that could arise in the event of an unexpected early arrival of herring or rapid on-grounds maturation of the fish. Department staff discourage processors from simply submitting "last year's tender list" or a list of the company's entire statewide tender fleet since such lists could be misleading when used to identify on-grounds company and tender affiliations.

In the Kamishak Bay District the management staff will be aboard the Department *R/V PANDALUS*. On-grounds announcements concerning the status of the fishery will be broadcast over VHF channel 7A as well as SSB 2512, and daily informational summary reports will be provided each evening at 6:30 p.m. on the same frequencies. Maps of the Lower Cook Inlet herring fishing districts and management areas are attached.

As was the case during the past two seasons, the Department will be soliciting test fishing bids for up to 50 tons of herring in 1996. Processors interested should contact the Homer ADF&G office at (907) 235-8191 for more specific information.

We wish to thank fishermen and processors for their excellent support and cooperation in managing the Lower Cook Inlet herring fisheries, and look forward to another successful season.

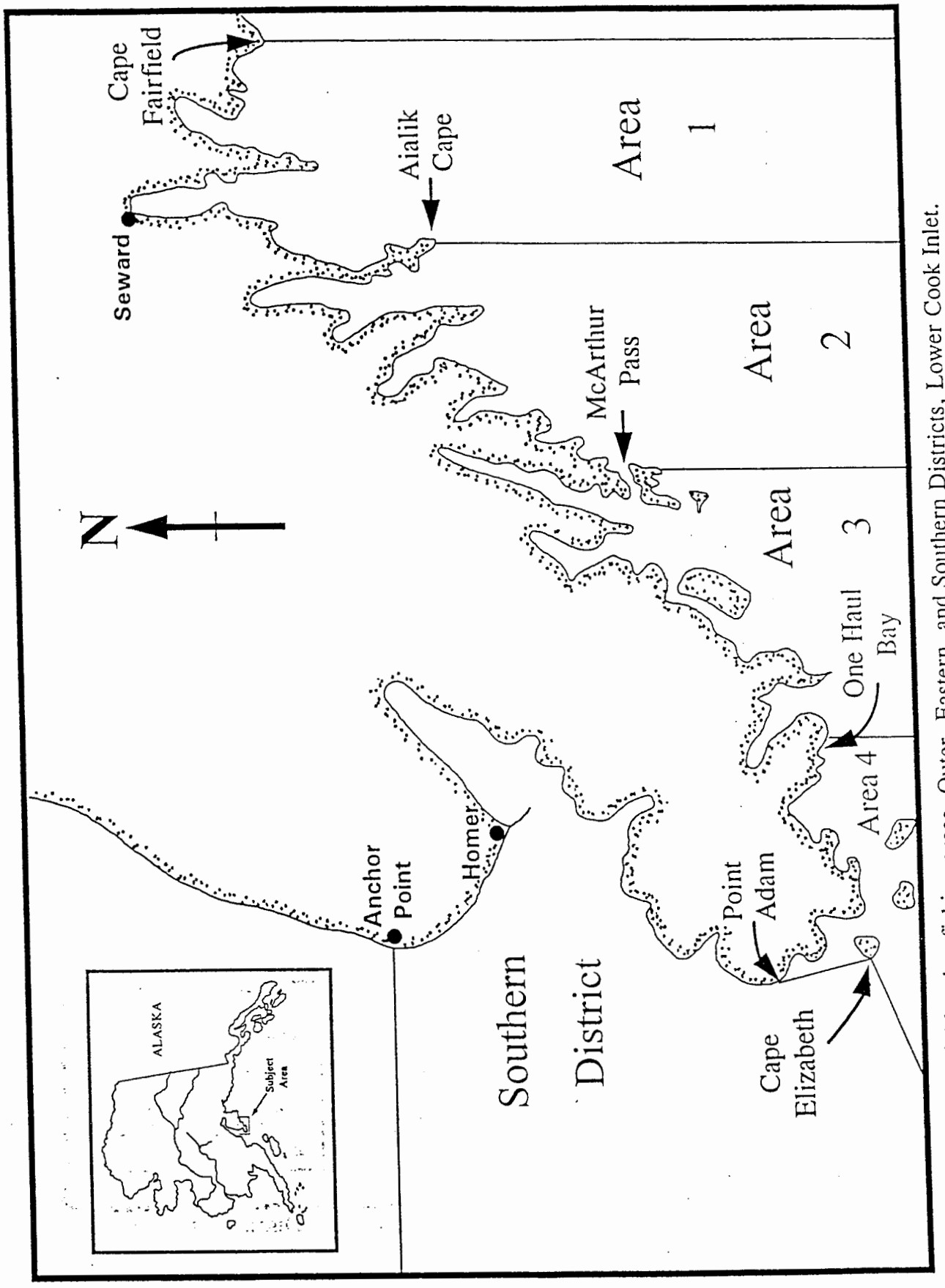


Figure 1. Commercial herring fishing areas, Outer, Eastern, and Southern Districts, Lower Cook Inlet.

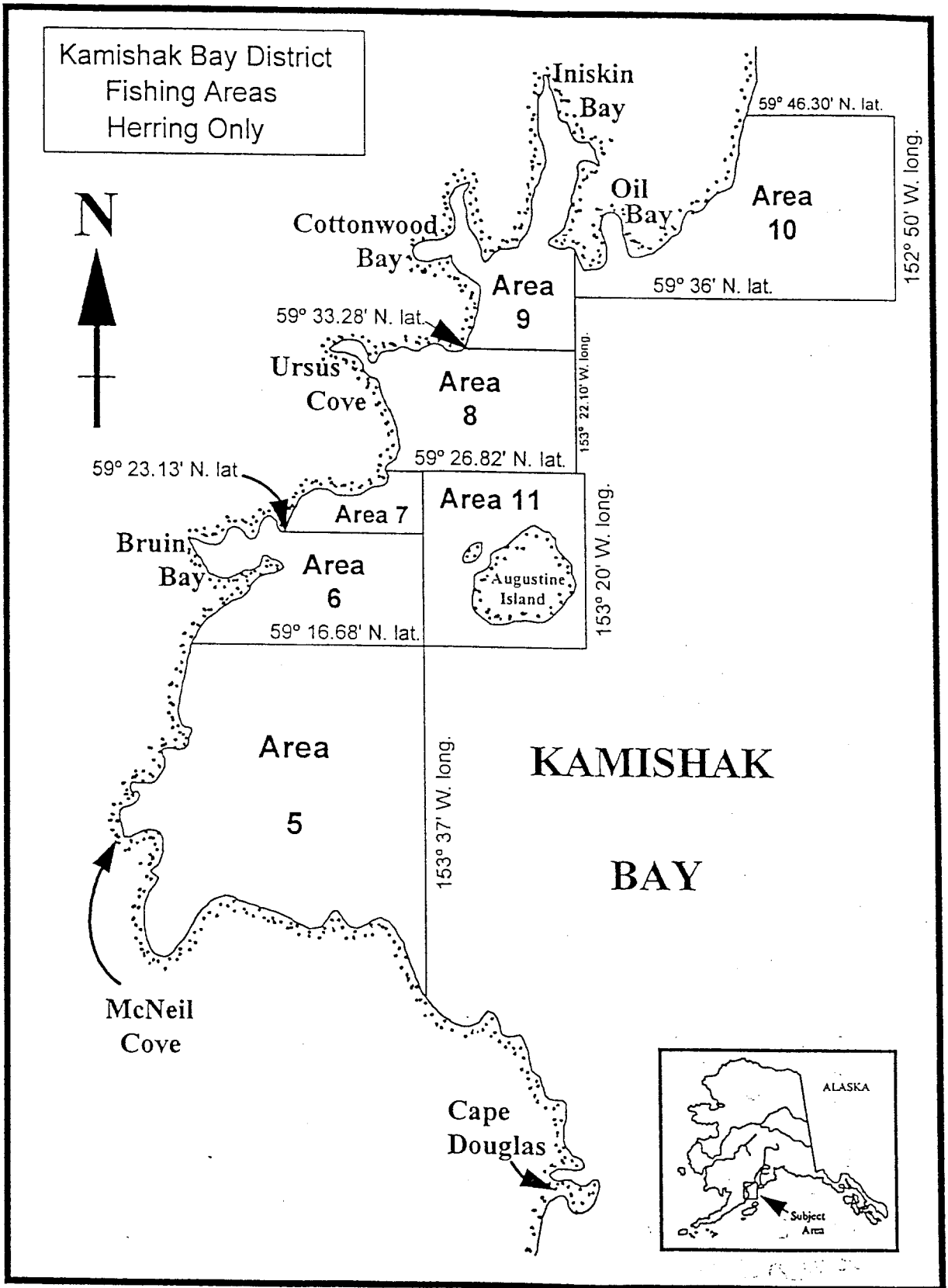


Figure 2. Commercial herring fishing areas in the Kamishak Bay District of the Lower Cook Inlet management area.

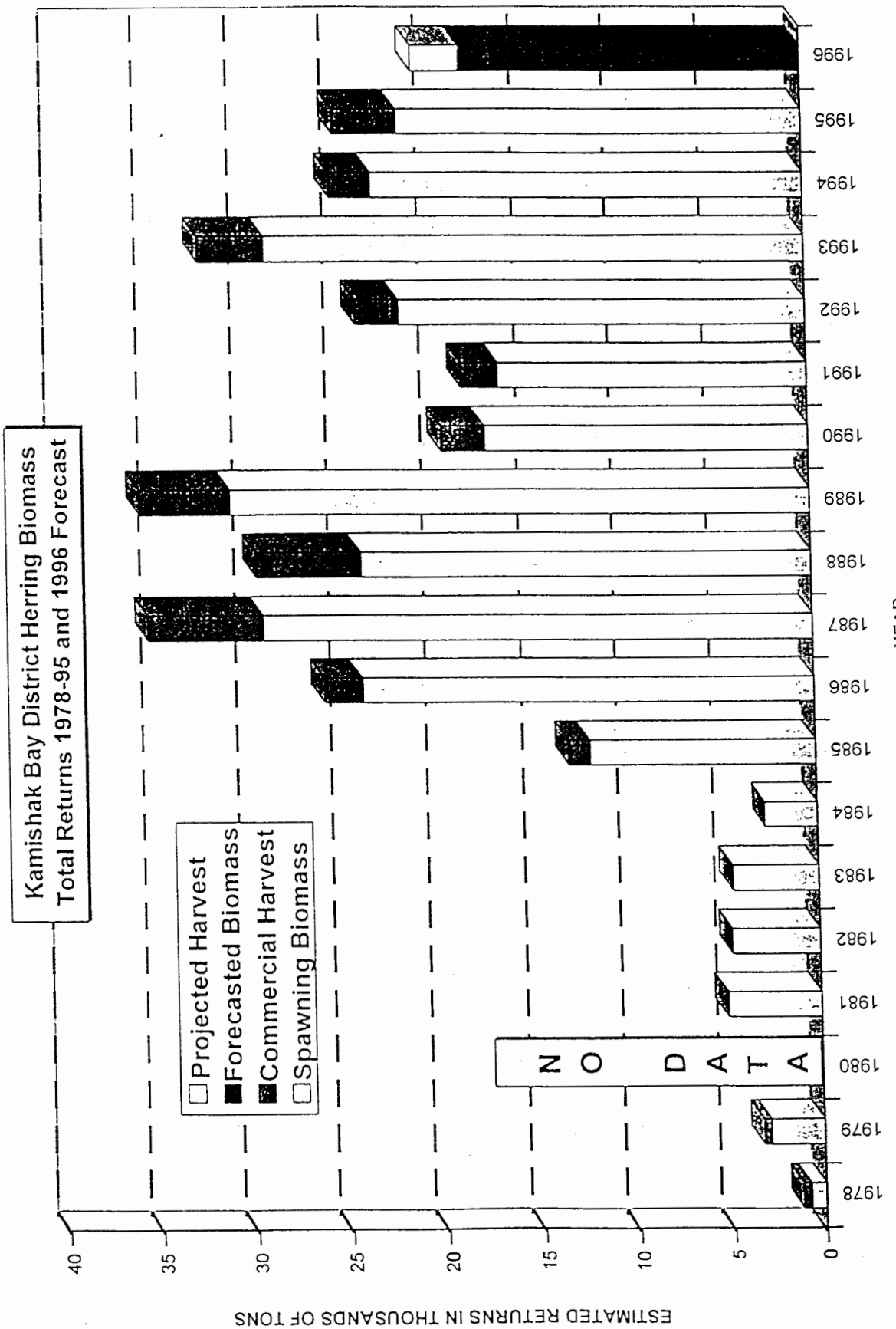


Figure 3. Biomass estimates and commercial harvests of Pacific herring in the sac roe seine fishery, Kamishak Bay District, Lower Cook Inlet, 1978 - 1995, and 1996 projection.

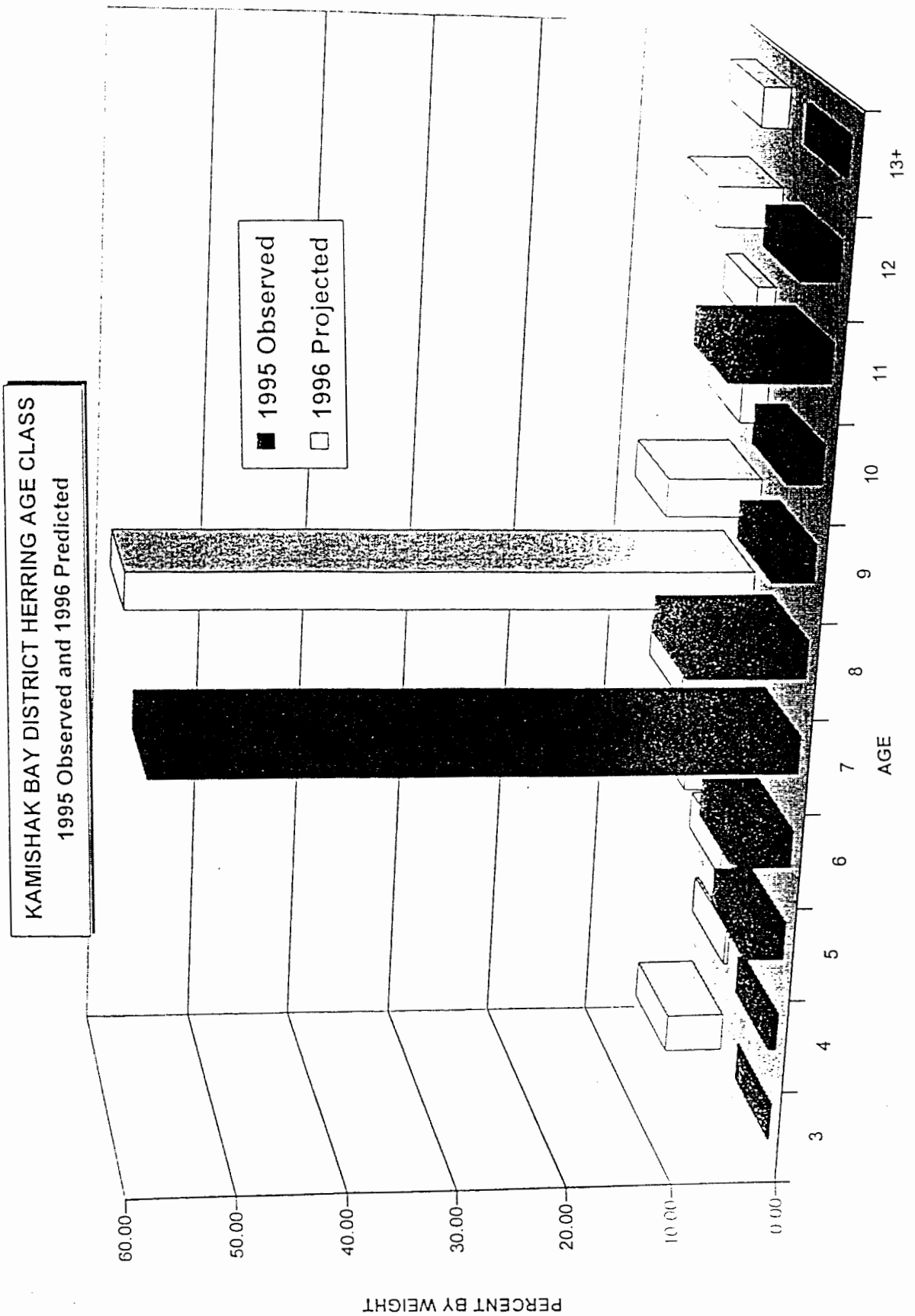


Figure 4. Herring age composition from samples obtained in the commercial sac roe seine fishery, Kamishak Bay District, Lower Cook Inlet, 1995, and 1996 forecast.

MCNEIL RIVER 1995. SEASON

Introduction

Summary of 1995 field season

* # of bears
* bear use
* volunteers
  - cabin construction
  - LCI Seiners' secretary
  - beaver dams
* Governor's visit
* Hunting in the Refuge

Graduate student research--Polly Hessing

* Plans for 1995 season
  - Sample for number of fish caught by bears by age & sex class of bear
  - Tag fish
  - Examine means of collecting fishing effort data on bears
* Results
* Plans for 1996 season
  - Increase number of early and late samples; night watches
  - Collect CPUE information for run
  - Cooperative work with Commercial Fisheries

Summarize

* What worked last summer
* What didn't work

Request for assistance